Textile World

MARCH, 1942

IN THIS ISSUE

MAKING AND FINISHING ARMY OVERCOATING

Factoring

Points the Way

Cash As You Ship

Receive cash for shipments as made... yet extend your usual credit terms to customers.

No Credit Losses

Full credit risk and responsibility assumed by Commercial Factors Corporation.

No Collection Expense

Collection worry and expense and the cost of credit checking eliminated through our service.

Learn more about these and the other benefits of Commercial factoring by writing for this information.

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc. Established 1828
Schefer, Schramm & Vogel Established 1838
Peierls, Buhler & Co., Inc. Established 1893

TWO PARK AVENUE, NEW YORK

SEVENTY-SEVEN FRANKLIN STREET, BOSTON

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Your Looms

Built for Peace Time Weaves

Can Be Changed

To

Looms for War Contracts

Normal Service Continues on Loom Repairs Shuttles and Bobbins

Our Government is Going to Require → that the larger part of the Looms of our Country fall in line on the Program for War Time Fabrics

→ Your Looms can be made to fit into that Program

→ Shelter Tent Duck—for instance—is being made on E Model Looms

→ Somewhere down the list of Needed Fabrics is the one You Can Make

We Can Supply The Necessary Parts → To change over the average loom—be it one of our older models or a loom of the X Series—to weave a Wide Range of Fabrics that are needed by our Army, our Navy and our Air Corps

Let's Talk It Over

DRAPER CORPORATION

Hopedale Massachusetts

Atlanta Georgia Spartanburg S C

ANNOUNCING!

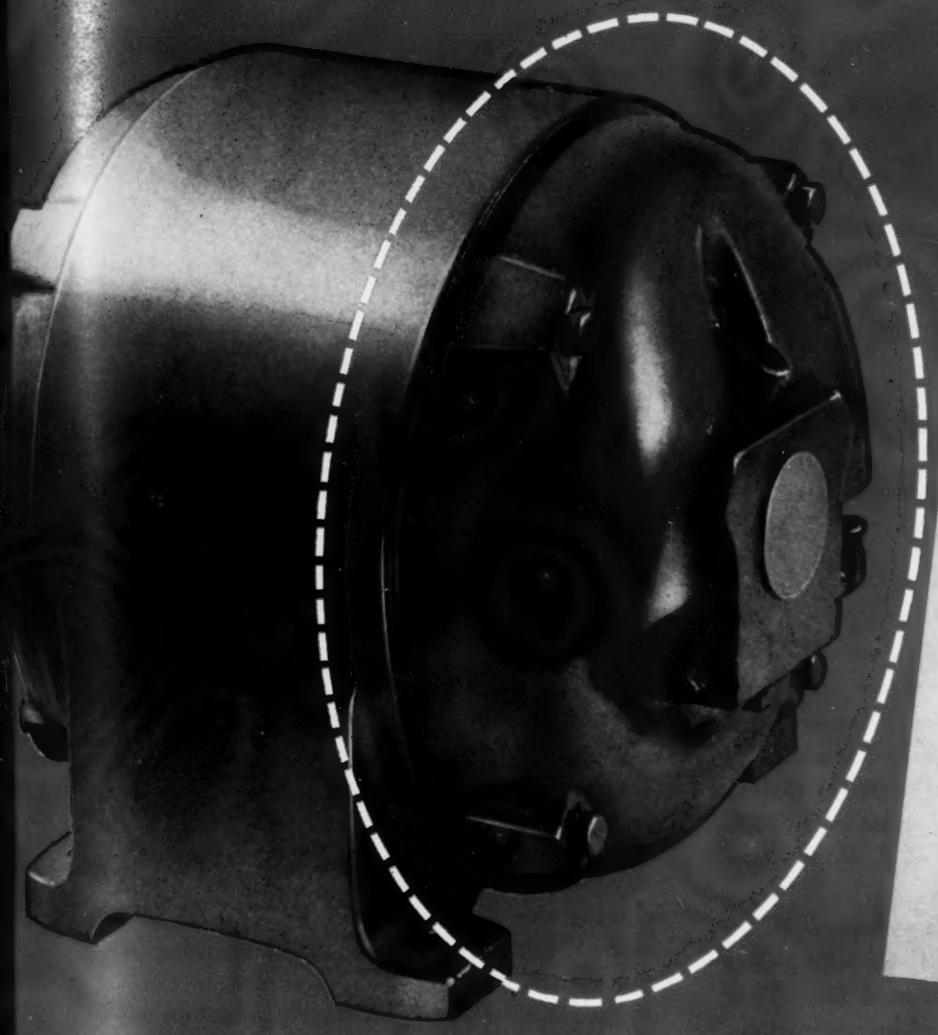
the greatest Motor Improvement in years!

New Design . . . New Construction Give You New Protection You've Never Had Before In A General Purpose Motor!

OUTSIDE . . . INSIDE . . . from bearing to bearing . . . from frame to shaft—Allis-Chalmers now gives you a NEW motor more completely protected — more able to stand the terrific abuse today's production schedules demand.

All the experience of building motors for over fifty years has been concentrated in the development of this advanced product. Specially designed to give your motors "all-around" protection, the new "Safety-Circle" is a wide, solid rib — integrally

ALLIS-CHALMERS LO-MAINTENANCE



SEE HOW "Safety Circle" GIVES YOU PROTECTED ENCLOSURE OF ALL VITAL PARTS

Look at the "broken-circle" design of other motors with exposed undercarriage and incomplete protection. Compare this to "Safety-Circle" construction that guarantees *all-around protection* of vital parts.

Acting as an anchored shock absorber, it gives the entire structure of the motor and all its parts high resistance to blows, knocks, falling objects — keeps your motor in factory-fresh condition for its entire life under normal operating conditions.

To foremen, superintendents, and maintenance men it means more service and smoother operation with less maintenance and lower costs — *more motor for your money* in the Allis-Chalmers way.

NEW ALLIS-CHALMERS LO-MAINTENANCE MOTOR WITH ALL-AROUND "Safety Circle" PROTECTION*

cast as part of the frame — which forms an unbroken circle of protection around the stator. One-piece cast frame and cast end-brackets guard against exterior knocks and abuse.

A more liberal use of electrical materials makes this motor internally and electrically stronger because current and magnetic densities are less extreme. Additional cross strength has been built into the distortionless stator. Rotor is keyed to the shaft for strength, and its outer surface is turned to assure air-gap accuracy and uniformity.

Shorter, stronger bearing design delivers smooth performance with full-flow lubrication and easier maintenance. New machining and production methods make all parts uniform and interchangeable.

Other Lo-Maintenance features of this outstanding NEW Motor are oil drains at the bottom of the bearing box for easy flushing, removable end-brackets and large conduit box for handy wiring.

Write Allis-Chalmers, Milwaukee, Wisconsin, for Bulletin No. B-6210, and test this NEW Motor's design and construction against your own experience! See how it fits your needs . . . then call the engineer in the district office near you!

*Don't confuse this NEW motor with higher-priced motors for so-called special purposes. All the extra advantages of this standard motor are yours *at no extra cost!*

A 1484

CE MOTOR WITH "Safety Circle" PROTECTION

Paying By The Pick

Comments by Henry G. Lord

Whenever I see a pick counter on a loom, I think of one morning many years ago—perhaps forty—when a young man came into my office in Boston to see me about an order he had received from the Cocheco Mills, at Dover, New Hampshire. He said his name was Chidsey and that he was with the C. J. Root Company.

Charles H. Fish, Agent of the Cocheco Mills, had ordered 200 counters without telling Mr. Chidsey what they were to be used for. This was a big order at that time and he was curious to know for what purpose so many counters could be used; he thought that it might indicate a new field for his counters. He had sold a few counters to textile mills, but he never knew what they did with them.

I was stumped, too, at first, but then it occurred to me that I had read of some experiments which were being made in England to pay weavers by the pick and I thought it was quite possible that Mr. Fish had also heard of these experiments and was going to try them out in his own mills. I suggested to Mr. Chidsey that he should go to Dover and talk it over with Mr. Fish and gave him a letter of introduction.

As a result of that conference, the Root Company made certain adaptations of their counters to make them more applicable for counting picks on the loom and, as far as I knew, that was the beginning in this country of the now almost universal practice of paying weavers by the number of picks instead of by the cut, which had been the practice from time immemorial.

Mr. Chidsey was quick to follow the lead developed by this incident and some years later he told me that a large part of the Root Company's business was with textile mills. The pick counters of those days were very different from the present modern pick counters.

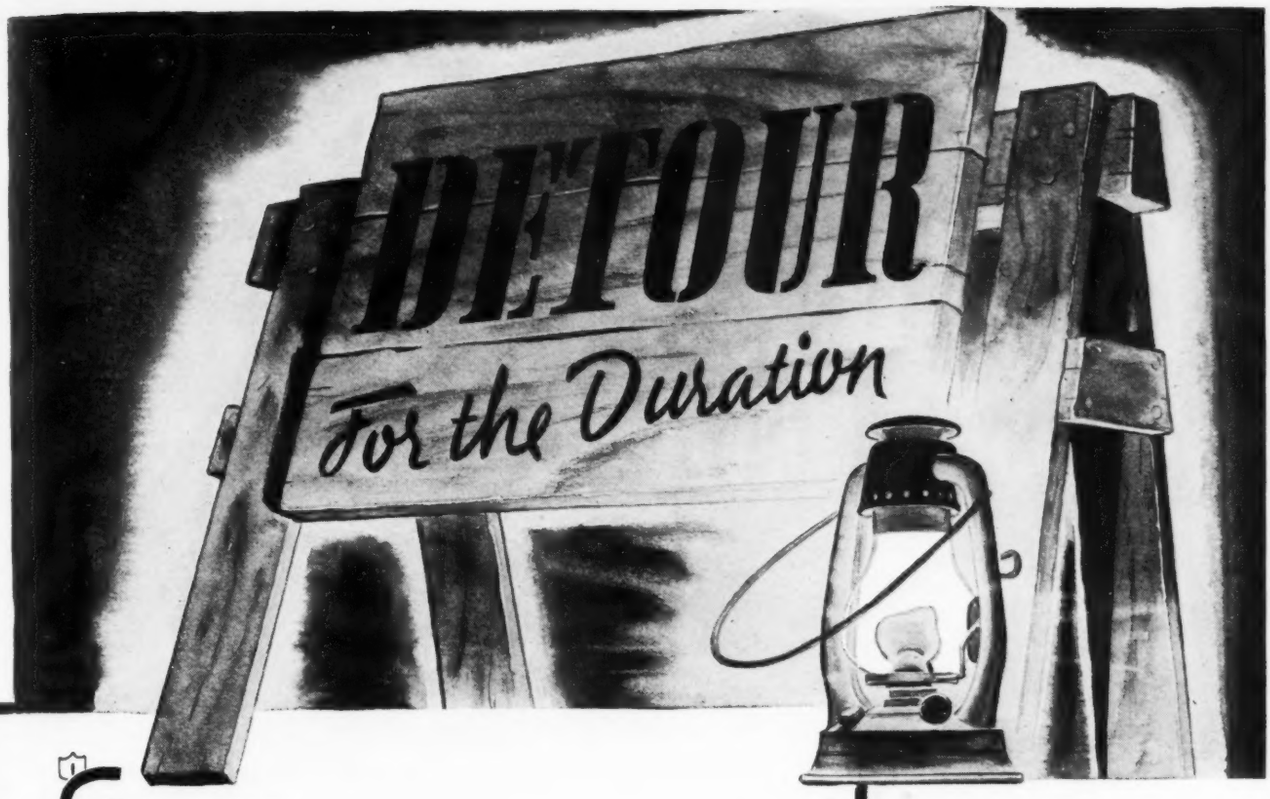
Meantime, the Veeder Manufacturing Company, also an old Connecticut concern, was developing the design and manufacture of pick counters, hank counters and other counting devices which enabled manufacturers to check the operating efficiency of their production and keep it at top levels.

The Veeder Manufacturing Company had started making cyclometers in Hartford in 1895, and the Root Company began making small hinges in Bristol, Connecticut, in 1866 and took up the manufacture of counting devices in 1890. The two companies merged about fifteen years ago and now manufacture counting devices which are used in practically every industry, but the textile industry still absorbs an important proportion of their output in a great variety of applications to all forms of textile machinery.

My old friend, J. H. Chaplin, is now General Sales Manager of Veeder-Root, and another old friend, Edwin Howard, who was formerly Sales Manager of the Mason Machine Works, represents them in the South.

Whenever I visit a mill or a textile exhibition and see all the wonderfully efficient machines at work, they are always associated in my mind with the men who invented or developed them. I wish some one might write the personal stories —in many instances the romances—of the development of textile machinery in the last fifty years.

HENRY G. LORD, ***founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.***



There Must Be A Way...

Chin up. Today nobody can quit. The work must be done. If not in the good old way, in some other way . . . but . . . it must be done!

To help you find "your way" to your objective we pledge our fullest co-operation.

The Ciba Laboratory
EXISTS TO SERVE YOU
Today, and in the days ahead, when circumstances may force a change from regular routine, Ciba Chemists, Colorists and Service Technicians are ready to cooperate with you to solve your problems. Please feel free to call upon them at any time.

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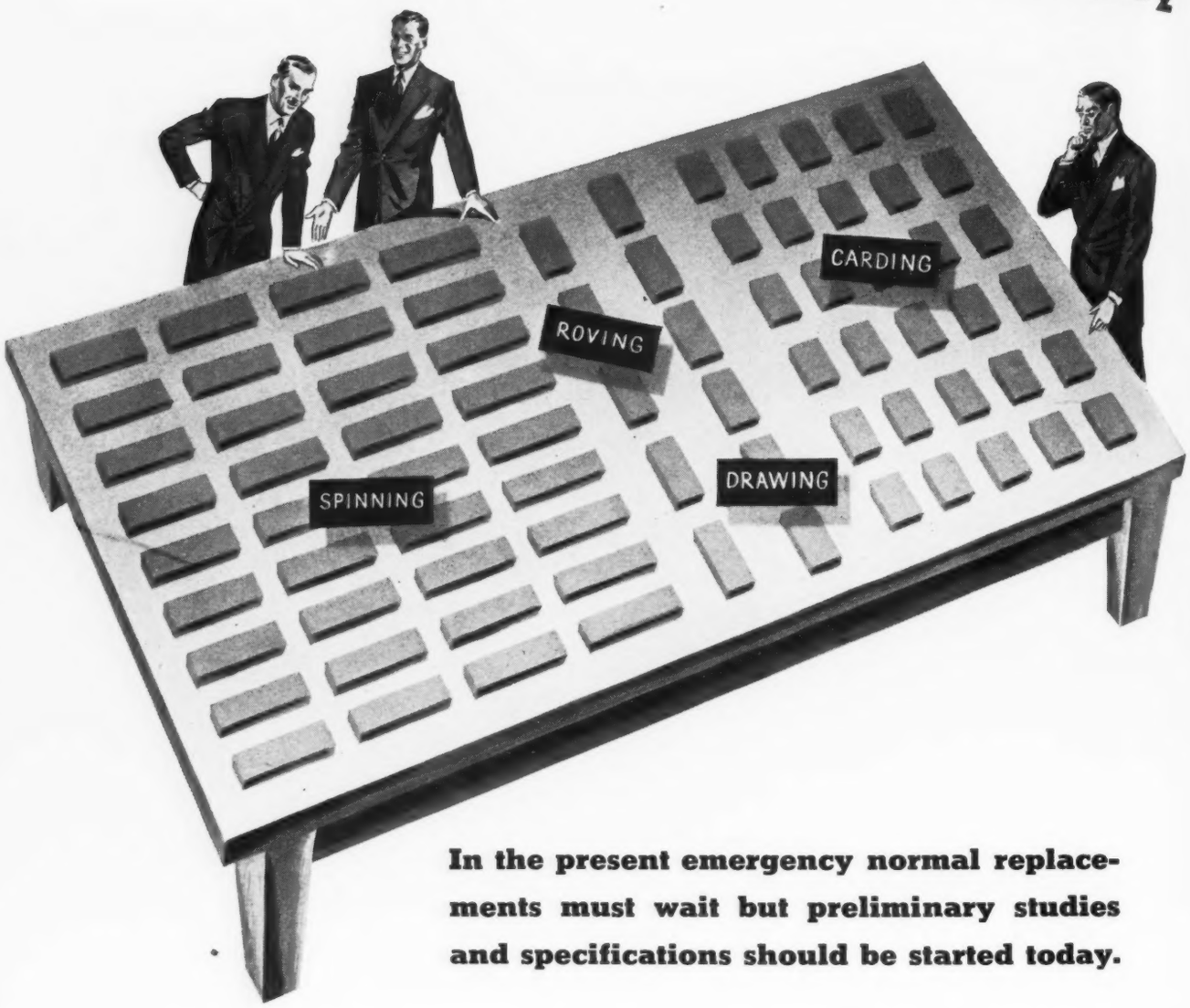
Planning for 1942 is a Job for Today



In the present emergency normal replacements must wait but preliminary studies and specifications should be started today.

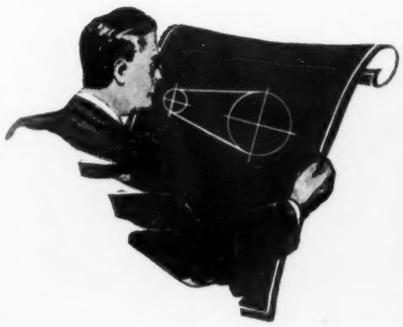
During this period of national emergency "production at all costs" has been of paramount importance. Time was short . . . the needs of our nation great, but the textile industry with unprecedented speed and efficiency has been delivering the goods. To meet these demands was not an easy task. Every available piece of equipment had to be pressed into service.

Tomorrow with the return to normal conditions much of this equipment must be replaced . . . for in a competitive market the operation of such equipment will be prohibitive. Plans for tomorrow can be started today while there is time to study your needs carefully and wisely.

Our engineers are anxious to keep you in close touch with improvements in methods and equipment . . . and to show you how such new developments can be incorporated in your plans for the future.

SACO-LOWELL SHOPS

60 Batterymarch Street, Boston, Mass. Charlotte, N. C. Greenville, S. C. Atlanta, Ga.



MILLIONS IN RUBBER WASTE CAN BE SAVED IN INDUSTRY!

LET THE G. T. M. HELP YOU MAKE YOUR MECHANICAL RUBBER EQUIPMENT LAST LONGER

IN American factories millions of dollars worth of industrial rubber goods fail prematurely every year due to improper inspection and unintentional abuse.

This waste must stop—now that America's rubber life line is under attack. Every pound of rubber must work to the limit for victory.

Today it is essential to take the utmost care of any rubber product you now have in operation or in stock—*because replacement may be difficult in the months ahead, even on priorities!*

That is where the G. T. M.—Goodyear Technical Man—can be of greater help and service to you than ever before. In the past his expert skill in the correct application and installation of rubber has been responsible for countless performance records in all branches of industry.

By consulting the G. T. M. today, by following his recommendations on the proper handling of belting, hose and other rubber products, you can increase their service life measurably at a time when any increase in their life is critical.

He will be glad to go over your installations, to make suggestions and give you tips that will enable you to obtain all the service built into your rubber equipment—to prevent waste of America's most precious war material.

This service costs you nothing. The G. T. M. will be glad to call at your plant—to give you the benefit of his specialized training.

To call in the G. T. M., write Goodyear, Akron, Ohio or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

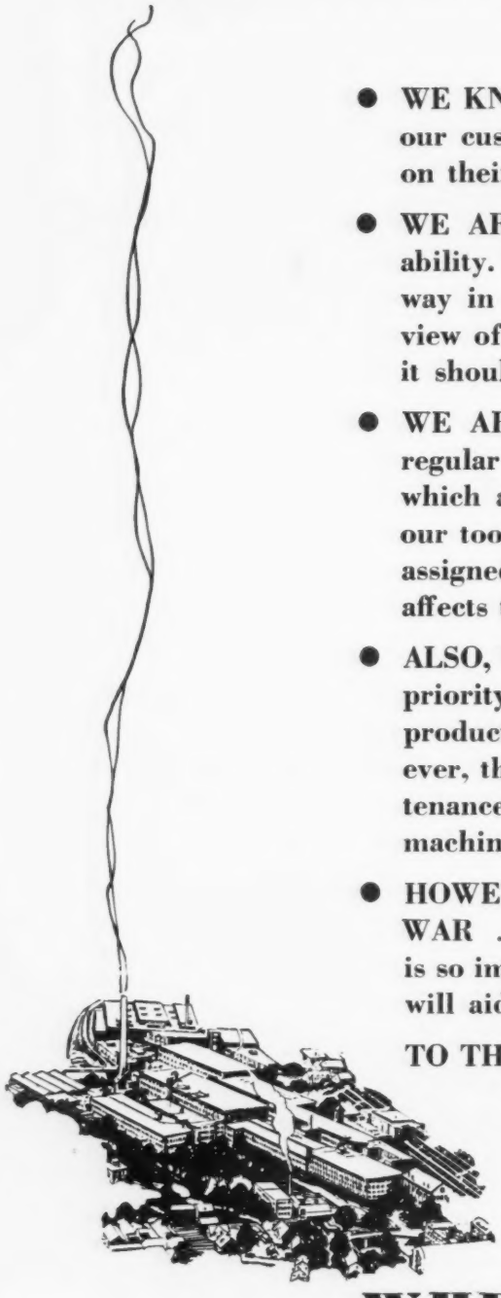
G.T.M

Serving on the Industrial Front to guard America's rubber supply

GOODYEAR

MECHANICAL GOODS

Deliveries on Textile Machinery



- **WE KNOW WE CANNOT SHIP as much textile machinery as our customers want . . . or give them as prompt deliveries on their orders for repairs and parts as they think we should.**
- **WE ARE SERVING THE TRADE today to the best of our ability. Naturally, we are governed by Washington as to the way in which we can serve it best. We feel, however, that in view of the all-out effort needed from the textile industry that it should have full consideration.**
- **WE ARE VERY BUSY TODAY making, in addition to our regular lines of textile machinery, a great many new things which are necessary in the armament program; and much of our tool equipment and a large part of our working force are assigned to this outside work for the duration. Naturally this affects to some extent our ability to produce textile machinery.**
- **ALSO, WE ARE IN A WAR ECONOMY wherein orders bearing priority ratings from the government have first place in our production schedule. We think we can assure the mills, however, that there will be an adequate supply of repairs for maintenance, and we also believe that a substantial amount of textile machinery will be built.**
- **HOWEVER, the principal job for all of us today is to WIN THIS WAR . . . and to win it as quickly as possible. Nothing else is so important. Nothing should be overlooked or neglected that will aid the program and objectives of our government.**

TO THAT END WE PLEDGE ALL OUR EFFORTS.

E. Kent Swift

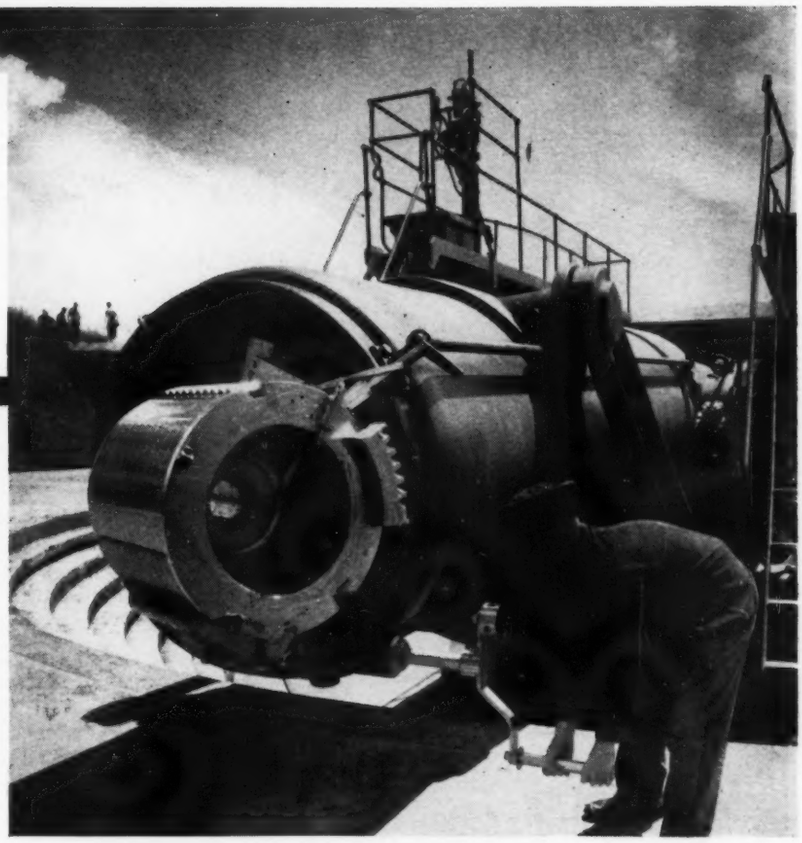
President

WHITIN MACHINE WORKS

Whitinsville, Massachusetts, U. S. A.

Charlotte, N. C. **Atlanta, Ga.**

WAR SPEED-UP cannot be fully maintained with inadequate lubrication. For *correct* lubrication of *TEXTILE MACHINERY* there are . . .



. . . SINCLAIR LILY WHITE OILS and NO-DRIP LUBRICANTS . . . oils that keep productive machine hours up, spindle drag and temperatures down . . . non-throwing lubricants exactly suited to top roll requirements. Further information, or lubrication counsel (including *Knitting Machinery*), may be had by writing to nearest Sinclair office, or to Sinclair Refining Company, 630 Fifth Avenue, New York, New York.

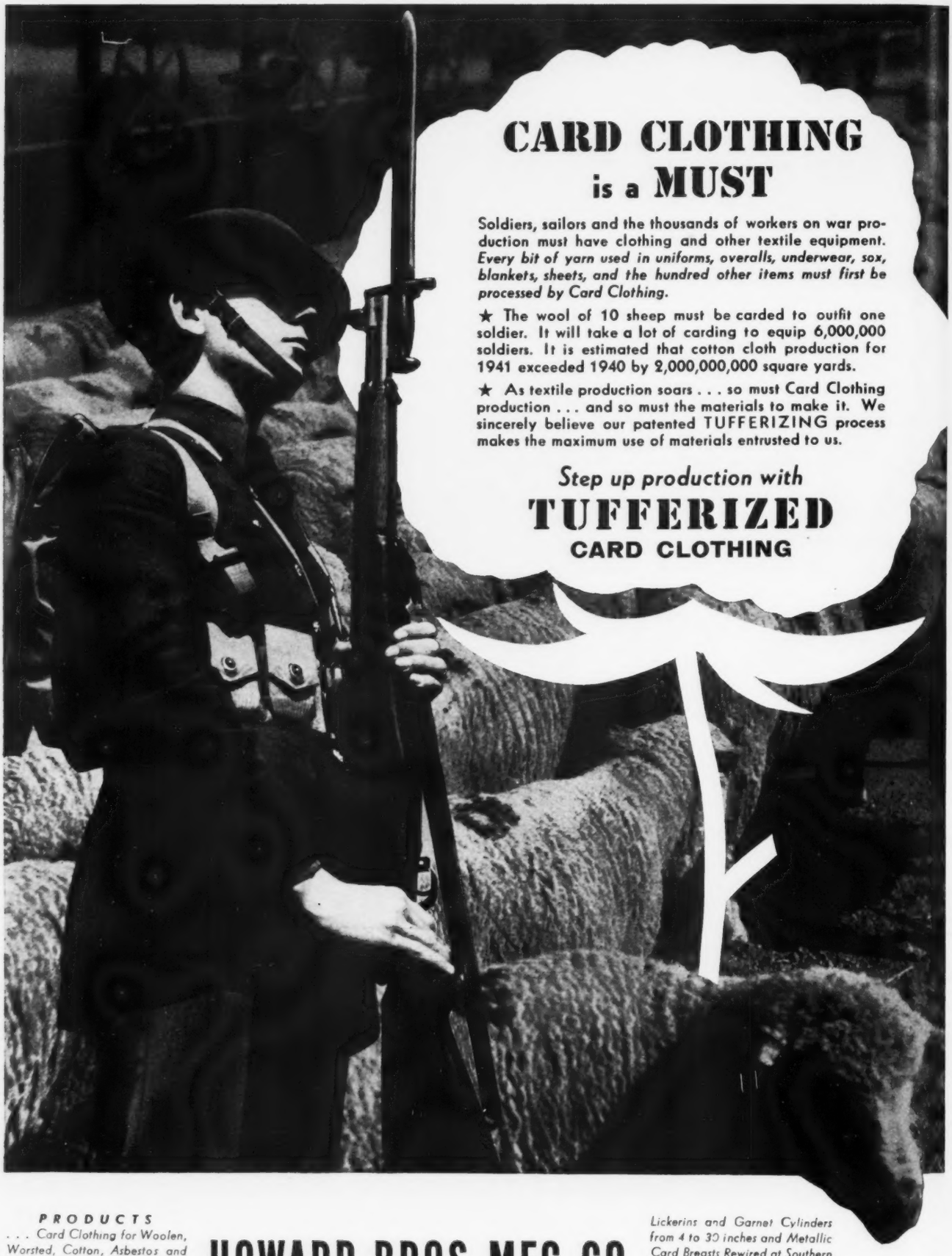
Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.

CARDING MACHINES (*Saco-Lowell*) *in plant of Cotton Specialties Co., Chicago. Lubricated 10 years with Sinclair Oil.*

SINCLAIR TEXTILE LUBRICANTS

SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • Rialto Bldg., Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth



CARD CLOTHING
is a MUST

Soldiers, sailors and the thousands of workers on war production must have clothing and other textile equipment. *Every bit of yarn used in uniforms, overalls, underwear, sox, blankets, sheets, and the hundred other items must first be processed by Card Clothing.*

★ The wool of 10 sheep must be carded to outfit one soldier. It will take a lot of carding to equip 6,000,000 soldiers. It is estimated that cotton cloth production for 1941 exceeded 1940 by 2,000,000,000 square yards.

★ As textile production soars . . . so must Card Clothing production . . . and so must the materials to make it. We sincerely believe our patented TUFFERIZING process makes the maximum use of materials entrusted to us.

Step up production with

TUFFERIZED
CARD CLOTHING

PRODUCTS

. . . Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants

HOWARD BROS. MFG. CO.

WORCESTER MASSACHUSETTS

Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye and Regular Wire Heddles

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas. **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

THERE CAN BE NO NIGHT ON THE HIGHWAY TO VICTORY!

MULTIPLY MAN HOURS by ADDING LIGHT HOURS

The LITEWAY
For Engineering Depts., Offices, Drafting Rooms

The KINGSWAY
For General Offices

The extra man hours now so urgently needed—in offices, plants, factories, mills—can often be immediately provided by adding effective light hours with Day-Brite Fluorescent Fixtures.

Designed and engineered to utilize the best in fluorescent lighting, Day-Brite fixtures assure improved morale, higher visibility and less fatigue—make it easier to do more work more accurately, faster, with less spoilage, fewer rejects.

DAY-BRITE LIGHTING, INC., 5495 Bulwer Ave., St. Louis, Mo.

Widen all production bottlenecks with light . . . Speed the job with Day-Brite Fluorescent Fixtures —they add light hours that multiply man hours! Consult your local Day-Brite Representative.

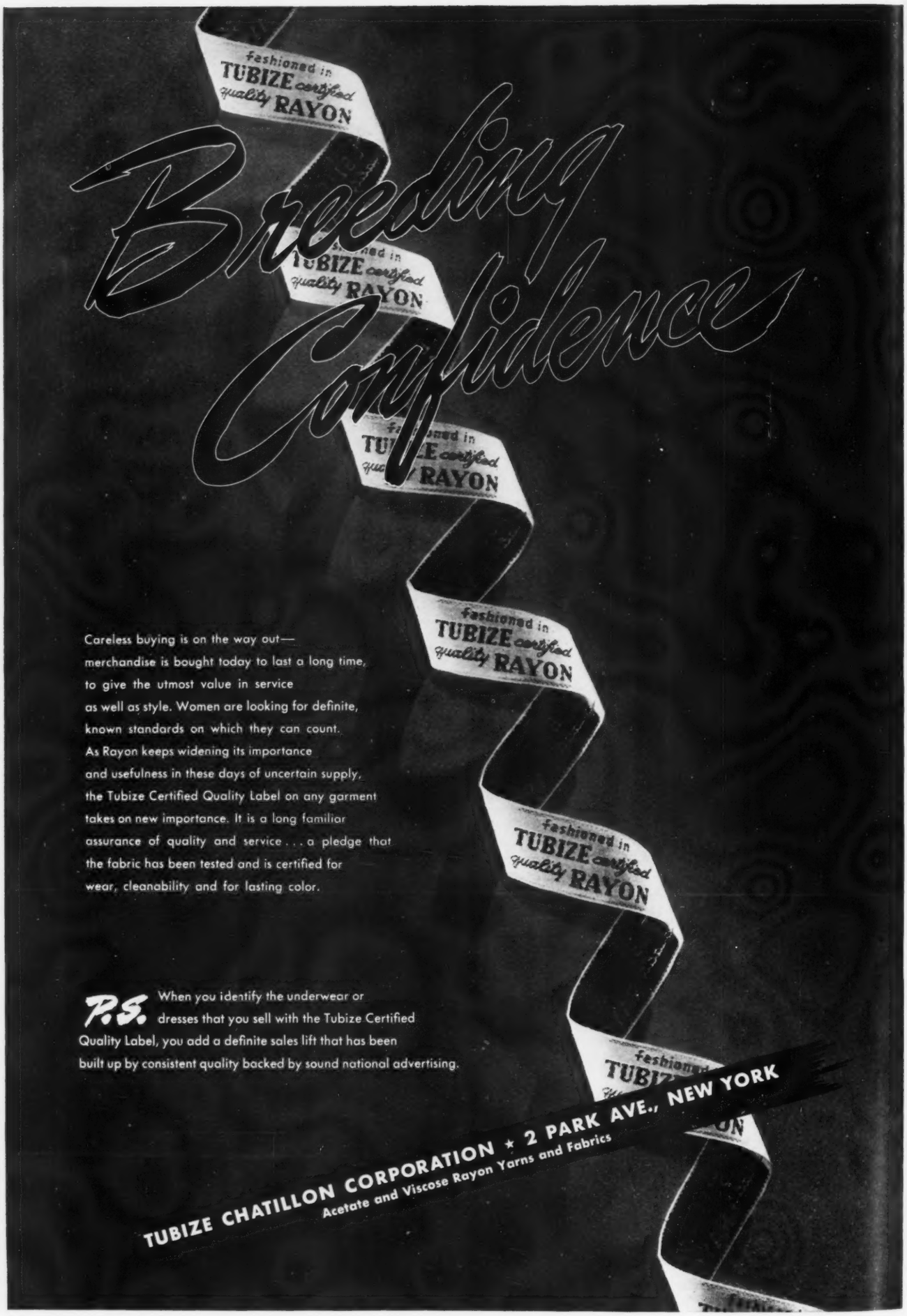
DayBrite Rivals Daylight

Adds Defense Hours!

The COMPLETE LINE OF FLUORESCENT LIGHTING FIXTURES
Nationally distributed through all leading electrical supply houses.

Day Brite
FLUORESCENT
FIXTURES

43


fashioned in
TUBIZE certified
quality RAYON
Breeding
Confidence
Careless buying is on the way out—
merchandise is bought today to last a long time,
to give the utmost value in service
as well as style. Women are looking for definite,
known standards on which they can count.
As Rayon keeps widening its importance
and usefulness in these days of uncertain supply,
the Tubize Certified Quality Label on any garment
takes on new importance. It is a long familiar
assurance of quality and service . . . a pledge that
the fabric has been tested and is certified for
wear, cleanability and for lasting color.
P.S. When you identify the underwear or
dresses that you sell with the Tubize Certified
Quality Label, you add a definite sales lift that has been
built up by consistent quality backed by sound national advertising.
TUBIZE CHATILLON CORPORATION ★ 2 PARK AVE., NEW YORK
Acetate and Viscose Rayon Yarns and Fabrics

Faster Production for Victory

...Often Means That Your Plant Must Control Its Own Weather!

Celotex Vapor-seal Roof Insulation and Celotex Bonded Built-Up Roofs are Important Factors In Controlled Temperatures and Humidity

WHETHER you are enlarging your plant to speed production for victory, or remodeling it, or both—you will be devoting special attention to its most vulnerable exposure—the roof.

By placing Celotex Vapor-seal Roof Insulation between your manufacturing processes and outside heat or cold, you facilitate the control of temperatures and humidity which are so often essential to maximum production speed. And, in northern climates, you materially reduce heating costs!

By using Celotex Bonded Built-Up Roofs, you are assured of guaranteed protection against repair expense for either ten, fifteen, or twenty years.

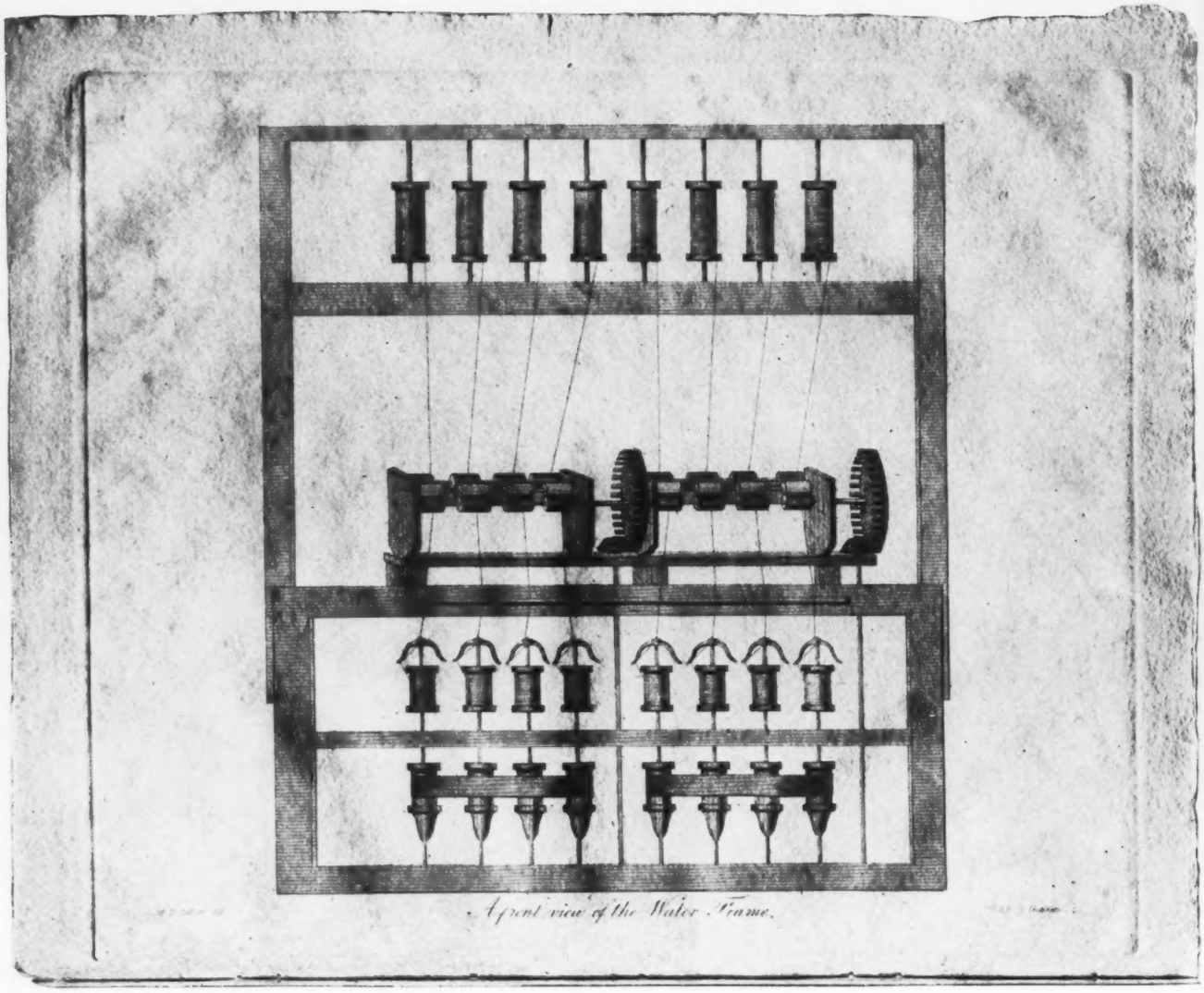
Write for the name of your nearest Celotex Roofing Contractor.

CELOTEX
REG. U.S. PAT. OFF.

VAPOR-SEAL ROOF INSULATION
BONDED BUILT-UP ROOFS

The word Celotex is a brand name identifying a group of products marketed by The Celotex Corporation.

THE CELOTEX CORPORATION • CHICAGO



Imagine the Surprise of Thomas Highs

IN 1767 THOMAS HIGHS perfected this spinning frame, called a Water Frame, the first completely mechanical device for spinning yarn. If this seems primitive, think back to its predecessor, the hand spinning wheel. This giant stride forward was successful because it introduced a *continuous* movement in the feeding and twisting of the yarn.

Essentially, the history of commercial textile development is simply one of increasing efficiency—of making processes more *continuous*. Reduce starting, stopping, changing, replacing—and you have achieved textile progress.

Imagine the surprise of Thomas Highs if he could but see today's textile accomplishments. Just think how amazed he would be to discover the existence of rayon and the whole new field of fabrics this versatile fibre had developed. Picture his astonishment at the speed and efficiency of modern textile machinery. How he would marvel at the "Continuous Process" that spins, bleaches, treats, dries, and twists yarn as a single thread in one *continuous* operation, a yarn unsurpassed in uniformity and virtually free from knots and broken filaments.

The textile world has come a long way since the days of Thomas Highs. Its advances prove themselves in a time like this, when efficiency is more than ever the watchword of American industry. We know that he would join in our pride in the vital contribution the "Continuous Process" is making in supplying a yarn which is not only produced *continuously* but also, because of its uniformity and cleanliness, runs more *continuously* in the mill.

"CONTINUOUS PROCESS" Spun-lo Rayon
Reg. U. S. Pat. Off.

INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue

4 WAYS BETTER...

TEXROPE* SUPER-7

1 **50% STRONGER CORDS!** Sensational new Flexon process makes cords 50% stronger than even those in former great Texrope belts.

2 **20% MORE CORDS!** Count them! You get 20% more of these tough, extra pulling power cords in every Texrope Super-7.

3 **INCREASED LIFE!** Cords float on amazing cool-running cushion rubber that absorbs shock . . . actually increases belt life phenomenally.

4 **EXTRA PROTECTION!** Exclusive duplex-sealed cover protects pulling cords against dirt, grit, moisture, and other adverse elements.

SINCE Texrope V-belts revolutionized power transmission sixteen years ago, they have steadily been "tops" among belt users. But here's the NEW Texrope Super-7 V-belt that's even better — 4 WAYS BETTER!

To the war-busy manufacturer who must get maximum efficiency out of his machines today, this is the V-belt that can help him, with . . .

50% stronger pulling cords!

20% more cords!

Duplex-sealed cover for extra protection against dirt, moisture!

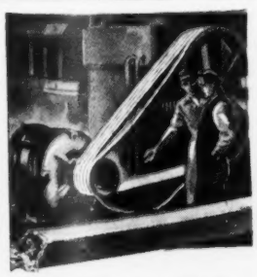
Cool-running cushion rubber section for increased life!

What's more — these are in *addition* to the regular features that have long made Texrope V-belts first choice with plant men everywhere.

Such features as — true V-shape for greatest groove-grip action . . . matched "sets" of belts that pull together... smooth, slipless, silent operation . . . backed by Allis-Chalmers engineering cooperation that assures you get the *right* belts for *your* job.

For complete information, call your Texrope dealer, or the Allis-Chalmers district office near you. Or write Allis-Chalmers, Milwaukee, Wisconsin.

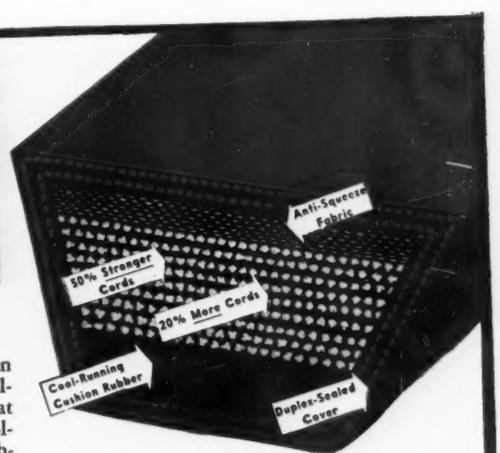
A 1475



LOOK OUT FOR DANGER in belts with stiff, unpliable cords! Such belts *look* strong . . . but actually they buckle over sheaves, build up excessive heat that attacks pulling cords. Result: Belt failure far sooner than you expect it.

WARNING SIGN! Sagging, slipping belts mean too much stretch not backed up by balanced cord strength. Motor must be pulled back often to take up slack. Result: When stretch limit is reached belt breaks under tension.

SUPER-7 TEXROPE BELTS are made by amazing Flexon process that *combines* flexibility with low stretch . . . great strength. Cords float on cool-running, shock absorbing cushion rubber. Result: *true* strength . . . *true* pulling power . . . *true* endurance.



Available in All Sizes
½ hp to 2000 hp

*Trade mark registered U. S. Patent Office. Texrope Super-7 Belts are the result of the co-operative research and design genius of *two* great companies — Allis-Chalmers and B. F. Goodrich — and are sold exclusively by Allis-Chalmers.

ALLIS-CHALMERS

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L. F. Dommerich & Company

Executive and General Offices

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Inquiries as to our services solicited

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ESTABLISHED 1840

Arrows point to defense fabrics for which we have dyed many thousands of pounds.

OUR CONTRIBUTION TO IT

Any industrial service which speeds up defense production makes a contribution to victory. Here's how Franklin Process Yarn Dyeing Service does it:—

1. It eliminates waiting for yarns to be spun from dyed stock.

2. Having large stocks of natural yarn in all four plants and unequalled package dyeing capacity, it can make prompt deliveries.

3. Having adequate twisting and winding equipment, it can deliver special as well as standard constructions on any usual put-up.

FRANKLIN PROCESS • Providence, Philadelphia, Greenville, Chattanooga; New York Rep., 40 Worth St.; Chicago Rep., 100 West Monroe St.

Let's work together for victory.

Franklin Process

★ LARGEST PACKAGE DYERS IN THE WORLD

ICTORY

HOW TO GET LONGER LIFE *and* BETTER WORK FROM CARD CLOTHING

USE THE CORRECT BRUSH FOR CLEANING FLATS

Some mills use burnishing or stripping brushes to clean flats. This is bad practice because it frequently causes irreparable damage to the flat foundation. Only a flat cleaning brush should be used for this purpose and this should have the correct size of wire and the correct foundation.

Ashworth flat cleaning fillets are specially designed for the purpose, giving gentle but positive action. Furthermore their cost is insignificant compared with the money they can save by prolonging the life of your flat clothing.

REDUCE SHUTDOWNS FOR REPAIRS BY INSTALLING THEM NOW.

ASHWORTH

PIONEERS IN CARD CLOTHING . . . *ASHWORTH BROS., INC.*
Woolen Div. AMERICAN CARD CLOTHING CO.

3 FACTORIES
FALL RIVER
WORCESTER
PHILADELPHIA

6 REPAIR SHOPS
FALL RIVER, PHILADELPHIA
CHARLOTTE, GREENVILLE
ATLANTA, DALLAS

7 DISTRIBUTING POINTS
FALL RIVER, WORCESTER
PHILADELPHIA, CHARLOTTE
GREENVILLE, ATLANTA, DALLAS

SOUTHWESTERN REPRESENTATIVE: • TEXTILE SUPPLY CO., DALLAS, TEXAS

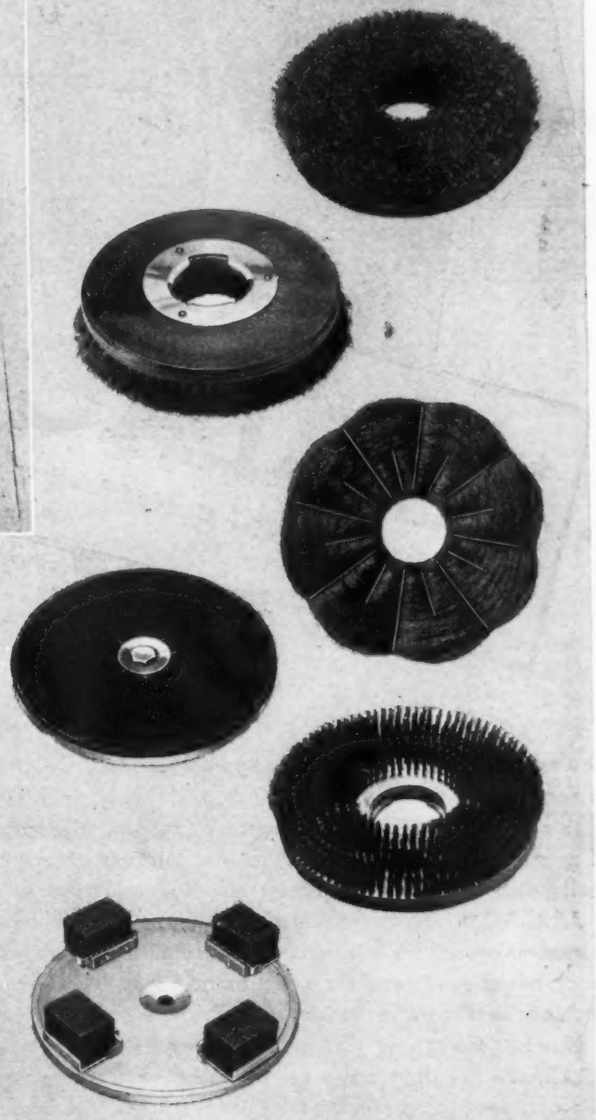
PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed

6-WAY ADAPTABILITY...

The 600 SERIES *Finnell*

(IMPROVED MOTOR-WEIGHTED TYPE)

SCRUBS · POLISHES
WAXES · STEEL-WOOLS
SANDS · GRINDS



New Safety Feature

—*Automatic Switch Control.* The 600 Series *Finnell* is equipped with the new *Feather-Touch* Safety Switch—an exclusive *Finnell* feature. When hand or hands are removed from handle, the switch automatically turns off and stops the machine. Switch operates from either side of handle and is so easy to hold to 'on' position. Proper weight distribution guarantees perfect balance during any function of the machine.

Five Sizes

—11, 13, 15, 18, and 21" brush diameter, permitting selection of the size that's best and most economical for your use.

For free demonstration on your own floors, phone nearest *Finnell* branch, or write Finnell System, Inc., 1903 East Street, Elkhart, Ind.

FINNELL SYSTEM, INC.

Pioneers and Specialists in FLOOR MAINTENANCE EQUIPMENT

ONE OF THE BEST MIXERS YOU'D WANT TO MEET

The whole textile world is talking about ARALAC—pronouncing it a "mixer" of remarkable versatility. It blends with wool, with mohair, with rayon and with cotton. It combines with hatter's fur. And it produces an amazing variety of new materials—interesting and distinctive in character—satisfying economically, the demands of designers, producers and consumers.

ARALAC brings something new to the textile field because it is a new substance, endowed with qualities individually its own. A protein fibre, just as wool, camel's hair and fur are protein fibres, it is nevertheless as different as each of these is different from the others. ARALAC is itself!

Now, as limitations on the use of wool become a matter of vital concern, ARALAC'S blending properties take on new importance. Possessing the warmth of wool, combining effectively with wool, ARALAC stands ready to help conserve the nation's wool supply!

- **Blends with wool, mohair, rayon, cotton.**
- **Combines with felting furs.**
- **Creates distinctive new fabrics.**
- **Takes dyes beautifully.**
- **Already proving itself in commercial use.**
- **Chemically stabilized.**
- **AND CUTS COSTS.**

★Trade Mark Reg. U. S. Pat. Off.

ARALAC, INC.

Taftville, Connecticut

ARALAC, produced by a division of NATIONAL DAIRY PRODUCTS CORPORATION, represents but one of the many contributions this nation-wide organization is making toward the more efficient utilization of America's agricultural resources.

DE LUXE PICKER

Saves Up to 50% in Picker Costs

THE THOROBRED LOOP PICKER

New flared bottom... rounded corners on front of picker... molded by new method to eliminate roughness. Keeps its shape and "stays put" on the stick. Has proper cushion. Easy to install. Proved long life and greater economy.

THE THOROBRED LUG STRAPS

Freedom from adjustment and constant power maintenance assures increased production at lower costs. Thorobred Lug Straps have extra strength ... proper cushion ... desired resilience ... and the ability to absorb shock. Never require adjustment and have long, trouble-free life.

An utterly different picker is this Dayton De Luxe! Its specially selected fabrics are two times stronger. They are finer woven to give maximum smoothness, and bonded with a resilient compound that is far stronger and tougher!

AND HERE ARE THE RESULTS,
AS PROVED IN ACTUAL MILL SERVICE:

1. *Picker costs cut up to 50 per cent.* **2.** *Production greatly increased.* **3.** *Operating time saved.* **4.** *When boxed, loom stays in parallel.* **5.** *Throwing a crooked shuttle is eliminated.* **6.** *Jerked-in fillings reduced to a minimum.* **7.** *Month-after-month service on high-speed looms.*

PLEASE HELP US COOPERATE FOR VICTORY

Today, everybody's business is Victory, and for the duration our production facilities of Pickers and Loom Supplies is dedicated to that end. Therefore, we ask that you be moderate in your demands for our products and patient regarding our ability to fulfill them.

THE DAYTON RUBBER MFG. CO.
Davton, Ohio and Waynesville, N. C.

Dayton Loom Supplies are protected by U. S. Patents issued or pending.

DISTRIBUTED BY

GREENVILLE BELTING CO.....Greenville, S.C.
GREENVILLE TEXTILE SUPPLY CO., Greenville, S.C.
ODELL MILL SUPPLY CO.....Greensboro, N.C.
THE TEXTILE MILL SUPPLY CO.....Charlotte, N.C.
INDUSTRIAL SUPPLIES, Inc.....LaGrange, Ga.
YOUNG & VANN.....Birmingham, Ala.
TEXTILE SUPPLY CO.....Dallas, Texas
AMERICAN SUPPLY CO.....Providence, R.I.
PROVIDENCE MILL SUPPLY CO.....Providence, R.I.
F. L. HERVEY CO.....Fall River, Mass.

EXPORT DIVISION

THE DAYTON RUBBER EXPORT CO.
38 Pearl Street, New York, N. Y., U. S. A.

CANADIAN REPRESENTATIVES

ROSS WHITEHEAD & CO., Ltd.....Montreal, Quebec

Dayton

Thorobred TEXTILE PRODUCTS

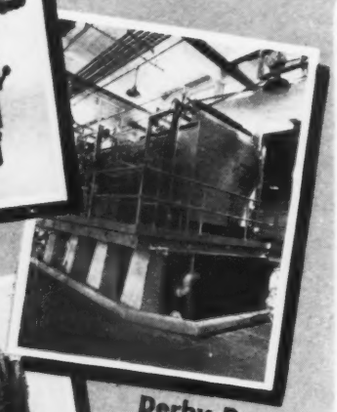
LOOM SUPPLIES—Dayco (TRADE MARK) ROLL COVERINGS

Made by the World's Largest Manufacturer of V-Belts

Copyright 1942, The Dayton Rubber Mfg. Co.

The Fleet Line

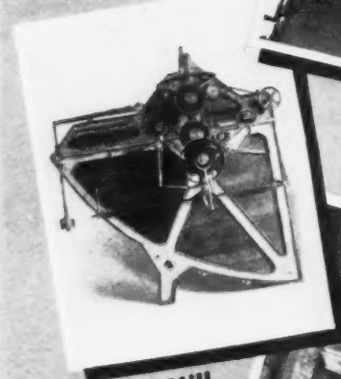
Type TLBT Dye Kettle



Derby Dry Cleaner

Continuous Washer

Stock Dye Kettle



Fulling Mill

Carbonizing Range

WE'RE DOING OUR BEST TO MEET THE DEMAND

The fact that we are buried under an avalanche of orders is both a source of satisfaction and a source of worry to us,—satisfaction that we merit so much confidence and worry because we can not make more generally prompt deliveries.

High priorities on many of our orders force us to give extended deliveries on other orders and in addition we have direct defense business which of necessity takes precedence over everything else in the shop.

Doing all that is humanly possible to protect the interests of our old and loyal customers, we are working a standard day shift of 52 hours and a night shift insofar as competent machinists are available. The shop scenes herewith, all taken on January 13, bear witness to our efforts.

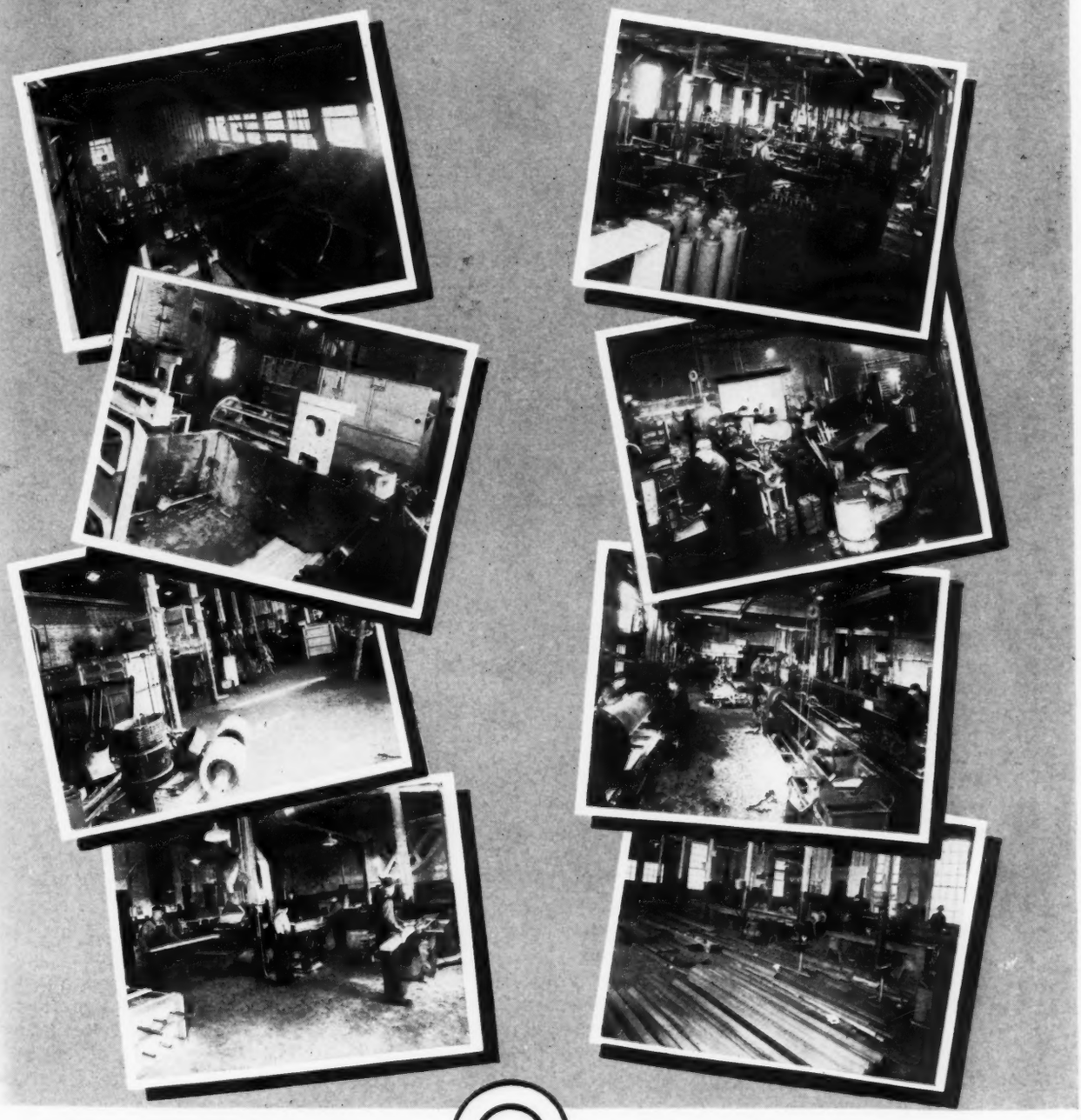
Times like the present call for abnormal patience as well as abnormal effort. Therefore, while thanking you for your confidence, we solicit your continued cooperation.

RIGGS and LOMBARD
INCORPORATED

AGENTS: Paul A. Merriam, 11 Berwick Lane, Edgewood, R. I.; Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa.

OF FINISHING EQUIPMENT

OUR "ALL OUT" EFFORT TO SUPPLY THE DEMAND



FOOT OF SUFFOLK ST. LOWELL . . . MASS.

OTHER PRODUCTS: Dye Becks • Progressive Jigs • Top Dyeing Machines • Crushers • Multiple Kettle Piece Dyeing System • Soap Distributing System • Soaping Machines • Roap Soapers • Pusher Mills • Yarn Steamers • etc.

High speed draper looms in this weave room, 272 x 54 feet, weave rayon and silk. The room is lighted with 160 fluorescent fixtures, each equipped with two 100-watt white G-E MAZDA F *lamps, mounted 10 feet above the floor.*

50 FOOTCANDLE LIGHTING WITH G-E MAZDA F LAMPS

helps speed production in this textile mill!

THIS WEAVE ROOM in the William Skinner and Son, Holyoke, Mass., mill is efficiently lighted with 50 footcandles of "indoor daylight" from G-E MAZDA F (fluorescent) lamps.

Like many other textile mills, this company finds that G-E fluorescent lighting is "better than daylight" illumination because it is efficient, economical, and dependable 24 hours a day. It is particularly suited to textile mills because it is cool and combines high light output with low maintenance cost.

General Electric fluorescent lighting helps speed production because it helps operators see faster and more easily, with less fatigue and fewer errors.

See your G-E MAZDA lamp distributor for complete information about installing this lighting in your mills . . . with certified fixtures, complete with G-E MAZDA F lamps, ready to hang up and turn on. G. E. makes no fixtures for MAZDA F lamps but recommends certified fixtures with the Fleur-O-Lier or RLM tag.

G-E MAZDA *Fluorescent* LAMPS

GENERAL ELECTRIC

Fortunate are the textile knitting mills, hard-pressed for production, who are equipped with Mazlo Magnesium sectional warp beams. Like other manufacturers who, before the war, had the foresight to employ this lightest of lightweight metals, they are now operating more efficiently because of the advantages obtained. Production is higher.

Mazlo Magnesium warp beams are very light in weight. Stops and starts on the machines are smoother, resulting in fewer breaks of the yarn. The job goes faster wherever empty or full beams must be handled; less fatigue for workers. These beams run true—they are strong and rigid—so yarn goes on evenly and comes off that way; finer finished fabrics.

This is another example of before-Defense planning which is profiting all of us today. Why don't you "design ahead" for the day when there will be an abundance of Magnesium for all uses? We'll gladly assist you. Sales Agent for Mazlo Magnesium Products: Aluminum Company of America, 1705 Gulf Building, Pittsburgh, Pennsylvania.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

MAZLO MAGNESIUM PRODUCTS

"OUR

CHAPMAN STATIC NEUTRALIZERS

INSURE EFFICIENT OPERATION REGARDLESS OF TEMPERATURE AND EXCESS HUMIDITY"

"STATIC was a costly nuisance to our mill"

"Slow starting of cards, repulsion of fibres, uneven yarns — yes, static was causing wasted time and spoiled quality. So we tried additional air-conditioning and steam jets..."

"But excess HUMIDITY was even worse"

"Uncomfortable working conditions . . . high heating and air-conditioning costs — were all caused by the excess humidity we *thought* we needed to kill static."

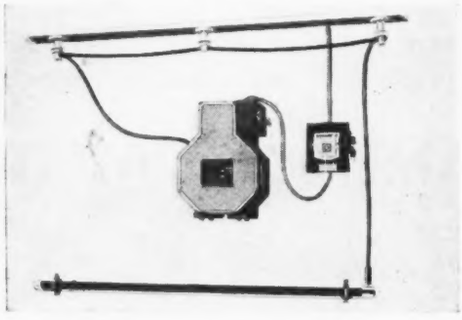
"Now We Avoid Both Static and Excess Humidity with

CHAPMAN STATIC NEUTRALIZERS"

"This simple equipment—a power unit connected with inductor bars—*instantly, scientifically* kills static on our machines, and costs little more to operate than an ordinary light bulb!"

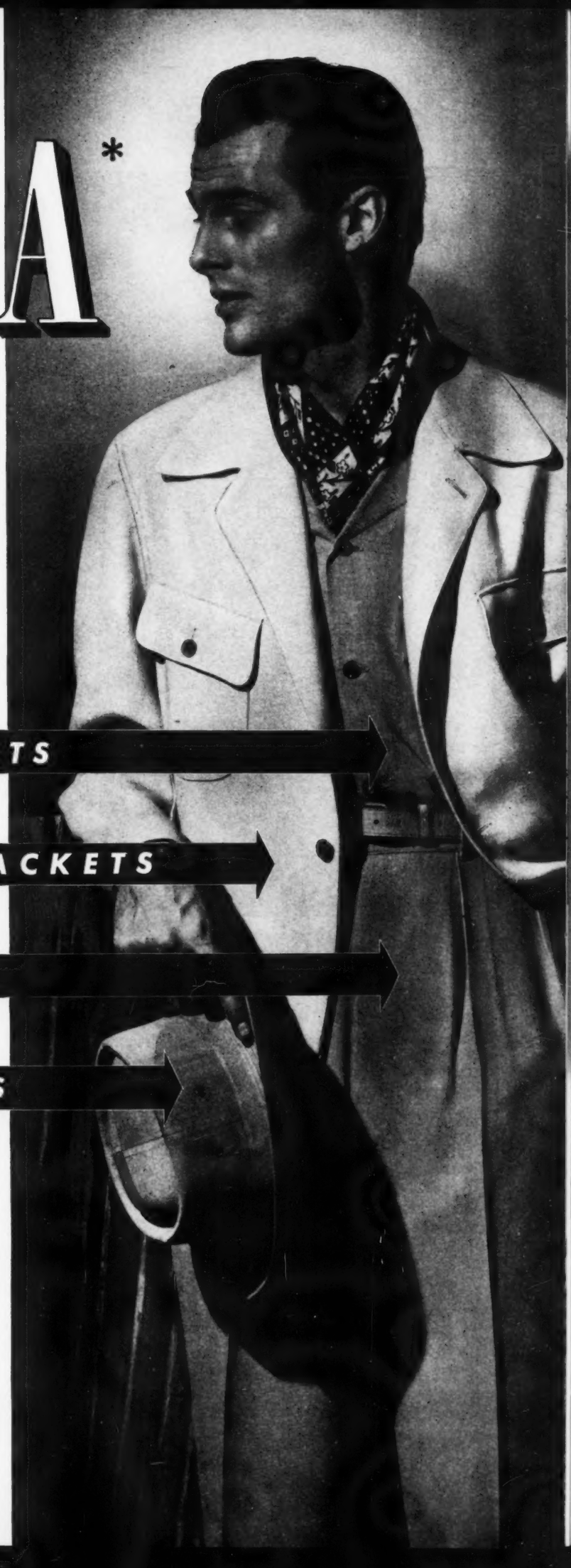
The Chapman Static Neutralizer, shown at right, is guaranteed to remove static electricity. 16,000 are now in use, 8000 in the textile industries. It is safe, free from shock — on list of inspected electrical appliances of Underwriters' Laboratories of the National Board of Fire Underwriters.

For further information, experiences of users, or trial installation, write today to the sole sales agents: KIDDER PRESS CO., INC., Dover, N. H., New York and Chicago. On the Pacific Coast: H. W. Brintnall Company.



TECA*

TECA offers you every advantage for building men's fabrics that sell on appearance and performance . . . lively in the hand, soft to the touch, crush-resistant and shrinkage-controlled. Teca Blends satisfy a demanding and an increasing market . . . are the key to stabilized year-round profits.



FOR SPORT SHIRTS

FOR LEISURE JACKETS

FOR SLACKS

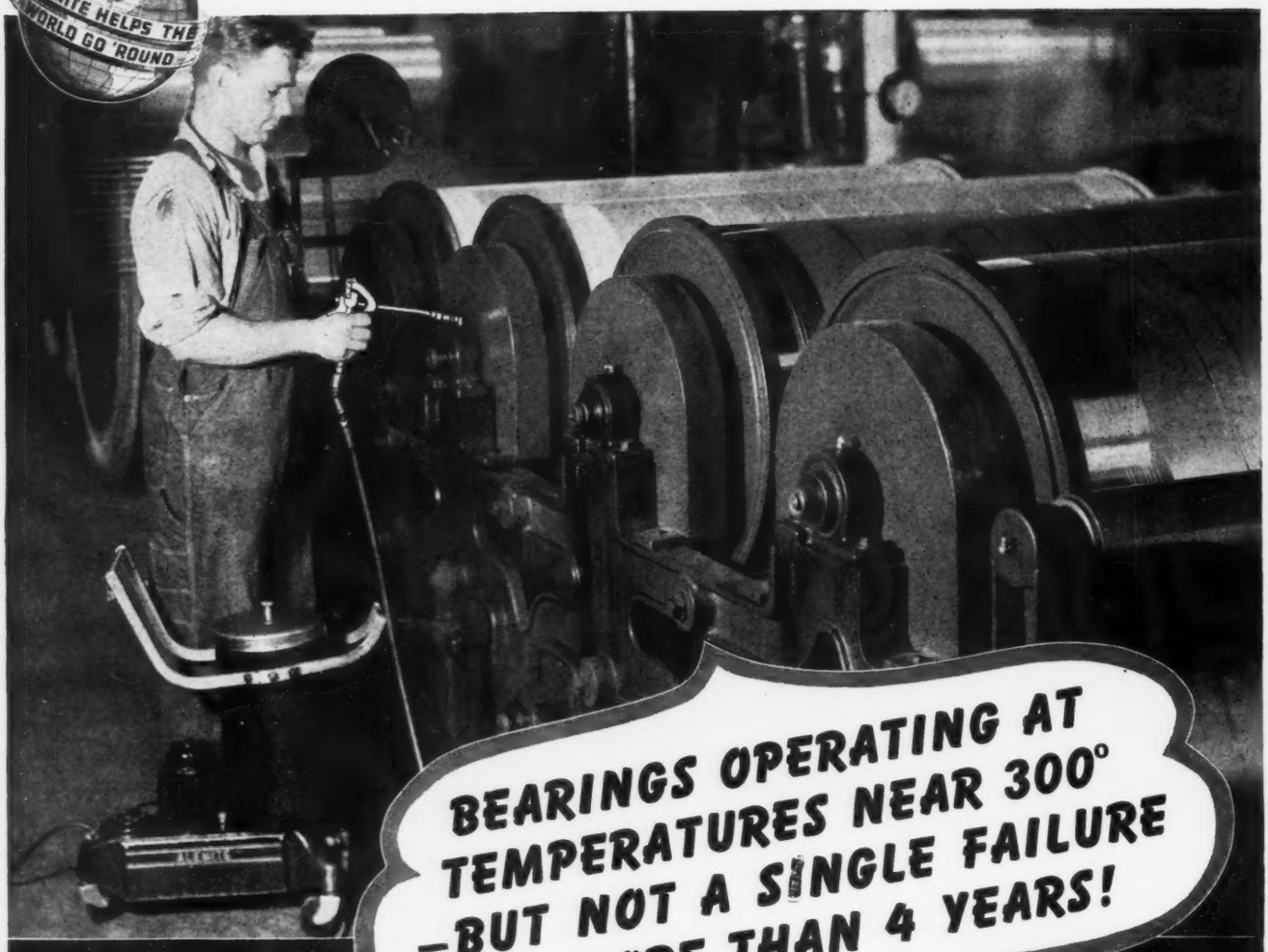
FOR SPORT HATS

* *Eastman*

CRIMPED ACETATE RAYON

A. M. Tenney Associates, Inc., 10 E. 40th St., New York. Sales representatives for Tennessee Eastman Corporation, subsidiary of Eastman Kodak Company

Ask Anyone in Industry!



BEARINGS OPERATING AT TEMPERATURES NEAR 300° —BUT NOT A SINGLE FAILURE IN MORE THAN 4 YEARS!

SAYS SLATER & SON, INC.

Big South Carolina Rayon Mill Finds Alemite Specialized Lubricants Protect Costly Bearings

IT'S ONE THING to find a grease that lubricates properly under normal conditions. It's entirely different when that lubricant must do its work on bearings operating at 300° F., or higher.

Alemite Specialized Lubricants are prepared to meet extreme requirements. That's why Slater & Son selected Alemite No. 38 Lubricant for these machines—and why they proudly report, "Not a single bearing failure in more than 4 years!"

The Alemite Industrial Lubrication Manual gives detailed information on lubricating more than two hundred specialized types of machines! It can easily be the means of cutting your maintenance costs—of cutting your lubricant expense—of avoiding repairs at a time when repair parts are hard to get.

This manual is FREE! Write for your copy today!

ALEMITE
REG U.S. PAT. OFF.
Industrial LUBRICATION
1888 Diversey Parkway, Chicago, Illinois • Belleville, Ontario

Another Product of STEWART WARNER

TOTALS FLOW AS A
ASH REGISTER TOTALS DOLLARS

Steam IS money. Wasting steam boosts overhead—eats up income—shrinks profits. Steam accounting is serious business—it needs business methods.

As a modern cash register guards a storekeeper's dollars — producing a printed record of each transaction—so flow meters should guard your power and process steam.

With Brown Flow Meters measuring the flow of fluids for power, heating and processing, you are completely protected—because

The Brown Automatic Recording Planimeter Pen, "A", making the marginal record shown on the chart pictured supplies the PROOF that a definite number of pounds of steam, gallons of water, cubic feet of gas, or barrels of oil, were delivered, utilized—or wasted.

This is a special, patented feature of the greatest value to flow meter users. Reference to the automatic planimeter pen record on chart rim assists you to distribute departmental or process loads more uniformly over the working day, effecting substantial fuel savings not only in the boiler room but in every department or unit where steam is used.

In addition, Brown Flow Meters offer you other advantages such as:

Six inter-related range tubes with inter-related direct reading charts.

Meter Bodies for working pressures up to 2500 lbs.

Integrator dial—easy to read—insures highly accurate totalizing at all rates of flow from 0–100%. Universal case permits any style panel mounting —flush on panel, front-of-board or on wall.

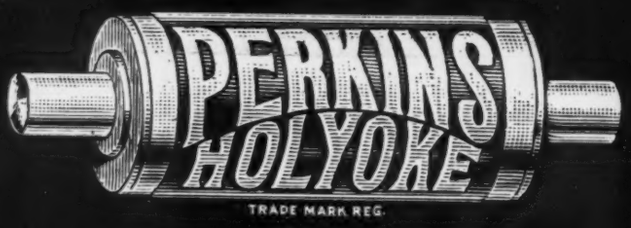
Indicating, Recording and Controlling models—Electrical, Mechanical and Area types for all applications.

Get all the facts about Brown Flow Meters. Features ar fully explained in Catalog No. 2007. Send for your copy THE BROWN INSTRUMENT COMPANY, *a division o Minneapolis-Honeywell Regulator Co.*, 4509 Wayne Avenue Philadelphia, Pa. Offices in all principal cities. Toronto Canada: 117 Peter Street—England: Wadsworth Road Perivale, Middlesex—Stockholm, Sweden: Nybrokajen

"A" This automatic planimeter pen record shows steam flow in volume units and the time at which it was produced or used in any part of the 24 hour period, enabling you to easily analyze steam production and distribution. "B" This record line shows rate of flow and enables the operators to maintain the most efficient boiler operation, thus effecting substantial fuel savings.

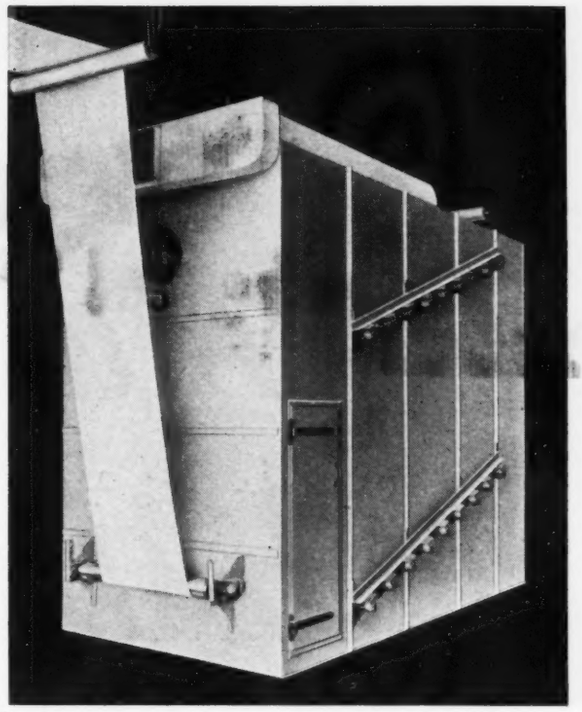
BROWN Flow Meters

Accurate Measurement with Simplicity



The Perkins Calender roll shop is the largest in the world;
.. and there is no substitute for Perkins quality

Efficient Drying is Certain

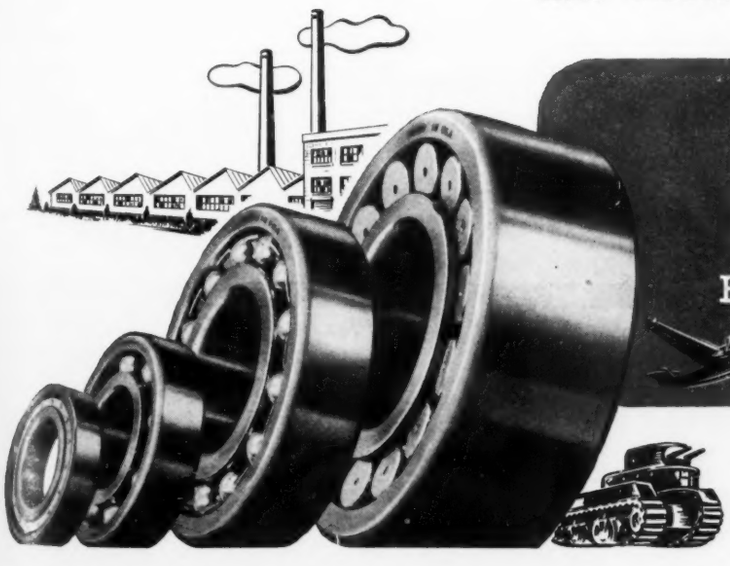


Built by Proctor & Schwartz, Inc.

Textile machines are working overtime these days in producing materials for Army, Navy and Marine Corps uniforms. And one of these machines is this Proctor Roller Type Dryer with individually motor-driven rolls used for drying piece goods of rayon, silk, cotton, wool, worsted, hair cloth, linings and similar materials. That the vital moving parts of this dryer are protected by SKF Bearings is a tribute to the good judgment of Proctor & Schwartz engineers. When they selected SKF's, they knew they were not only selecting bearings that run smoothly in high temperatures, but which are adequately protected by SKF housings against foreign matter and lubricant loss. In any roll call for Performance in Peacetime or War, SKF-equipped machines always answer "Here!"

4990

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA.



SKF

BALL AND ROLLER BEARINGS

THEY CALLED IT

"The Back Door of HADES!"

And you couldn't blame these poor fellows—for they had to swallow the smoke and fumes of their own two- and three-engine trains—as well as that of previous trains—on the tough upgrade haul through a famous tunnel in the Alleghenies.

This was the setting for a pioneering job. Sturtevant had successfully ventilated ships and buildings but could they do it here—in a 3000-foot tunnel filled with the heat, smoke and fumes of almost 100 trains a day? Railway officials thought so . . . Sturtevant Engineers went to work. Two Sturtevant Fans were installed at the west portal . . . big enough to blast out the smoke and fumes as soon as they left the engines.

For the first test run on April 19, 1901, spectators gathered at the east portal—literally cheered when the smoke came out 2 minutes ahead of the train. The engineer on the rear engine rode with his window open for the first time—saw the smoke from his own stack seven cars ahead, a clear tunnel behind.

Soon Sturtevant ventilated many other famous railway tunnels including Big Bend, Stampede—and the 4½ mile Connaught Tunnel in Canada, requiring fan wheels alone that are 13 feet in diameter.

Motor travel brought still another problem to tunnel ventilation—deadly fumes. Sturtevant was ready. For the New York-New Jersey Holland Tunnels a new system was developed—fresh air supplied at the roadway level, fumes exhausted at the ceiling, a *complete* change of air every 90 seconds.

Sturtevant

Puts Air to Work

for

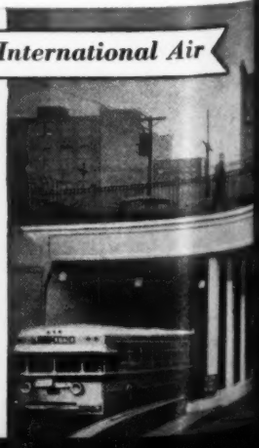
Tunnel Ventilation

Handling 63,000 Cars a Day

—a peak load that the Holland Tunnel connecting New York and New Jersey takes in stride. First of the modern vehicular tunnels, this Sturtevant system pointed the way for other tunnels from coast to coast.

Clearing the International Air

—by exhausting foul air and motor fumes in the mile-long Detroit-to-Canada Vehicular Tunnel. 24 Sturtevant Fans flood the tubes with a *complete* change of air every 90 seconds.



Today, the comfort and safety of the air you breathe in vehicular tunnels from coast to coast is taken for granted—thanks to Sturtevant pioneering in ventilation.

B. F. STURTEVANT COMPANY

Hyde Park, Boston, Mass. *Branches in 40 Cities*

B. F. Sturtevant Company of Canada, Ltd., Galt, Toronto, Montreal

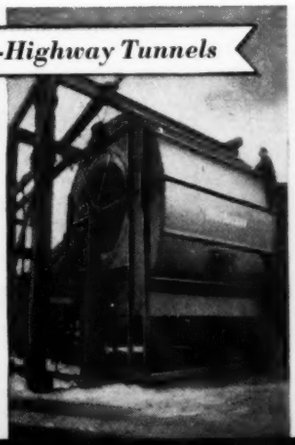
Sturtevant

REG. U. S. PAT. OFF

Puts Air to Work

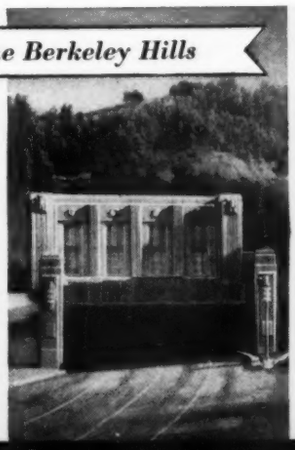
STURTEVANT — FOUNDER OF THE AIR HANDLING INDUSTRY

7 Miles of Super-Highway Tunnels



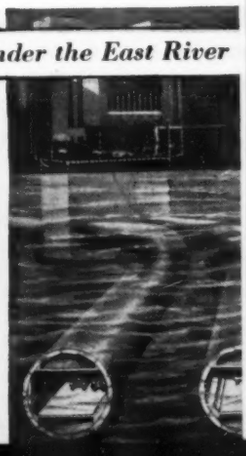
—on the new 160 mile Pennsylvania Turnpike, Sturtevant built 26 giant ventilating fans like the one shown here —on test before shipment from Sturtevant's Hyde Park plant.

Piercing the Berkeley Hills



—between Alameda and Contra Costa Counties in California, the Broadway Low Level Tunnel requires 16 Sturtevant Fans to flood the tunnel with fresh air—keep carbon monoxide content less than 2 parts to 10,000—at all times.

95 Feet Under the East River

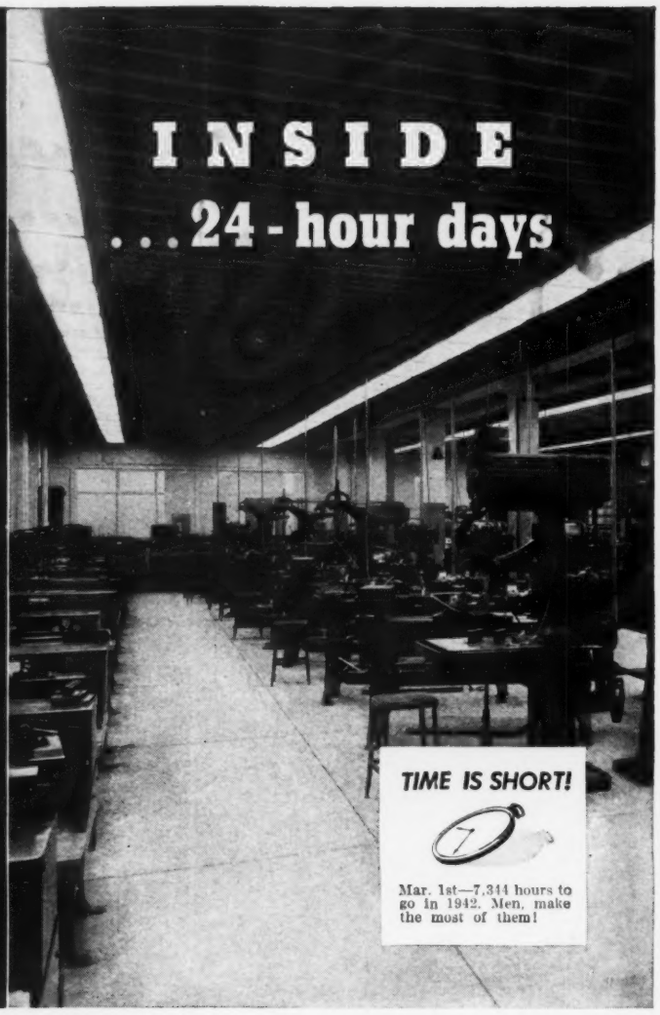


—ventilation is completely adequate and unfailing in New York's new Queens-Midtown Vehicular Tunnels—thanks to the 46 Sturtevant Fans that handle a total of *21,000 tons of air per hour.*

OUTSIDE
...24-hour nights

Has the blackout hit your plant? Be prepared. Insure yourself 24-hour working daylight, 50 foot candles or better, with a MILLER Continuous Wireway Fluorescent Lighting System . . .

INSIDE
. . . 24-hour days



THE industrial West Coast is blacking-out. Strategic plants in the East are reported ready to follow suit. How far will the blackout go?

Plants that were perfectly geared to natural daylight must now operate on 24-hour nights. What about *precision* work? What about *inspection?* What about *preferred* "window-side" locations? The brush is blacking-out all natural daylight.

Whether the blackout ever hits you or not—don't make your men work by moonlight. Install MILLER 50 FOOT CANDLER or 100 FOOT CANDLER in your factory areas *now.* Match their performance with MILLER TROFFERS for your office and drafting room. Insure yourself 50 foot candles or better of man-made working daylight, 24 hours a day. *Wire for details.* (Representatives in principal cities.)

Get these 5 MILLER Fluorescent Lighting Benefits

HIGHER ILLUMINATION . . . 50 to 100 foot candles—with uniform light distribution.

30 TO 50% LOWER INSTALLATION COSTS . . . Make war production dollars go further.

FASTER INSTALLATION . . . Steps up building schedules—plants get into production quicker.

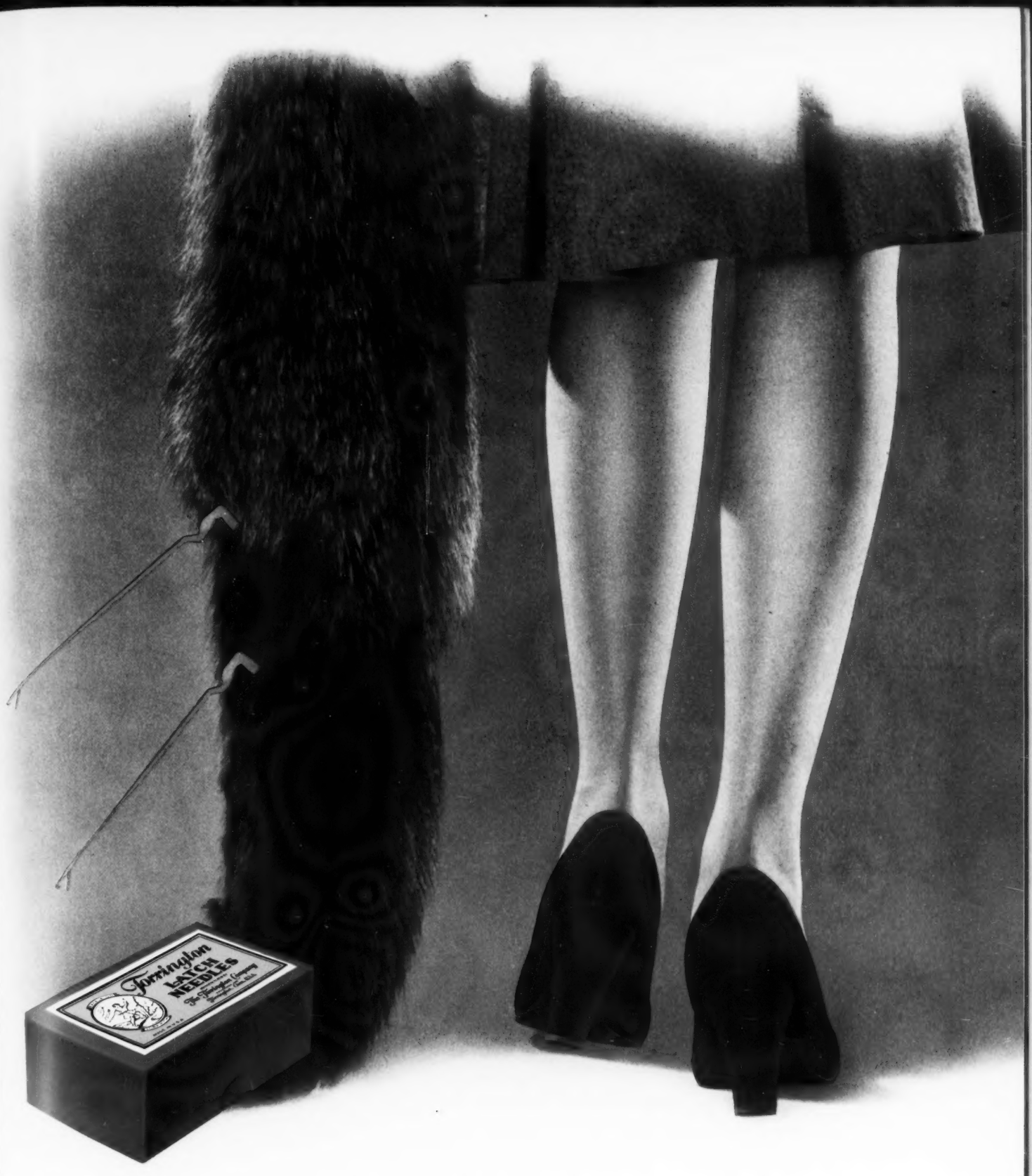
SIMPLIFIED MAINTENANCE . . . Easy-to-clean, removable porcelain-enamel reflectors — save man-hours for production.

ALLOWANCE FOR FUTURE LIGHTING NEEDS . . . illumination can be increased 45% without new fixtures—lower obsolescence.

MILLER

50 FOOT CANDLER
100 FOOT CANDLER
MILLER TROFFERS
***Continuous* Wireway Fluorescent Lighting Systems**

THE MILLER COMPANY
MERIDEN, CONN.
Pioneers in Good Lighting Since 1844
• MILLER offers a complete line of filament and fluorescent lighting equipment



The sales appeal of the No-Seam Nylon stocking depends to a great extent upon good knitting — smooth, accurate, uniform knitting. That is why leading mills are using Torrington Needles to produce these glamorous new stockings. Torringtons are the machine-made needles — machine-tested, too, — to meet the most exacting demands for smooth finish, fine temper and all-over accuracy of dimension. Use Torringtons for *your* No-Seam Nylons.

TORRINGTON latch NEEDLES

The Torrington Company, Torrington, Conn., U. S. A., Established 1866 • Branches: New York • Philadelphia • Chicago • Boston • Greensboro, N. C.
St. Louis • Toronto • Factories at: Torrington, Conn. • Orange, Mass. • Bedford, Quebec • Coventry, England

READILY AVAILABLE...

THANKS TO INCREASED DEMAND

Paradoxical? Yes, but true. Torrington Needle Bearings are *available for prompt delivery on your priority orders now* because the demand for them has been increasing so steadily. Again and again, during the eight years since the Needle Bearing was introduced, we have had to expand our facilities to meet this mounting demand—until today *further* expansion is a comparatively simple matter.

But *why* this increasing demand? The reasons lie in the bearing's unique combination of advantages... low cost, small size, high capacity, ease of installation, efficient lubrication. These advantages are so easily demonstrable, so obvious, that they have led to thousands of applications for the Needle Bearing in virtually every branch of industry. In fact, this bearing's potentialities are so evident that we have been able to anticipate and prepare for increasing demand with a planned program of expansion. As a result our facilities are keyed to the requirements of Victory—and Torrington Needle Bearings can be supplied *promptly* for all essential needs.

Textile machinery manufacturers working on priority orders can help guard against future production delays by incorporating the Needle Bearing in their designs now. Torrington engineers will be glad to work with equipment manufacturers in adapting the bearing's advantages to specific problems. For more detailed information, write for Catalog No. 116.

THE TORRINGTON COMPANY · ESTABLISHED 1866
TORRINGTON, CONNECTICUT, U. S. A.
Makers of Needle and Ball Bearings

New York Boston Philadelphia Detroit Cleveland Seattle
Chicago Los Angeles San Francisco Toronto London, England

TORRINGTON NEEDLE BEARING

One of a series of advertisements telling how American Industry is speeding up production

Taylor Instruments are helping to keep it filled!

IT'S **AMERICA'S JOB** to furnish the food that will help win the war. We've got to feed millions of fighting men (our own forces, even now, are eating 9 million pounds of food a day!). We've got to feed the American people. It's our giant's job to supply much of the food that our war allies will need—now, and afterwards. The U. S. food basket must be bottomless and brimming over.

A great part of these billions of pounds of food will have to be good foods in cans. It can be supplied—because this nation's food industry can turn out fine canned foods fast. The majority of instrument-controlled food plants in the United States are Taylor-equipped. Taylor Instruments automatically control temperatures and pressures, and hold them to a precise processing schedule. Temperatures can't jump too high, overcooking and destroying food values—or slump too low, improperly sterilizing the food. Fluctuating pressures during the cooking don't get the chance to damage cans and contents.

Food plants working on Government contracts have stepped up their production greatly during the last few months by adding hundreds of Taylor-controlled retorts and cookers to their production lines. These headlines will give you a glimpse:

Midwestern Packing Plant Installs Taylor Control Systems to Convert Thousands of Hogs Each Week into Hundreds of Thousands of Pounds of Canned Luncheon Loaves, Sausages, and Other Pork Products

In Another City Same Packer Installs Taylor Control Systems in New Plant That Will Pack 1,000,000 Pounds of Meat Weekly

Plant Puts Large Number of Taylor-controlled Retorts into Production to Process ½ Million Pounds of Pork Per Week

And Government quotas for canned vegetables in 1942 are being stepped up nearly 100%! Throughout the whole food industry, Taylor Instruments will be doing the biggest job ever, in 1942.

You probably have the same problem the food people have — meeting rigid Government standards of quality, quantity, price. You *can* meet them, by using Taylor Instruments in processing *your* product. Taylor Instruments will help *you* produce top quality at top speed. Taylor Instruments will help *you* cut costs and prevent waste—to assure profits in these times of pegged prices. Taylor Instruments will help solve a shortage of man-power—they work automatically, precisely, tirelessly.

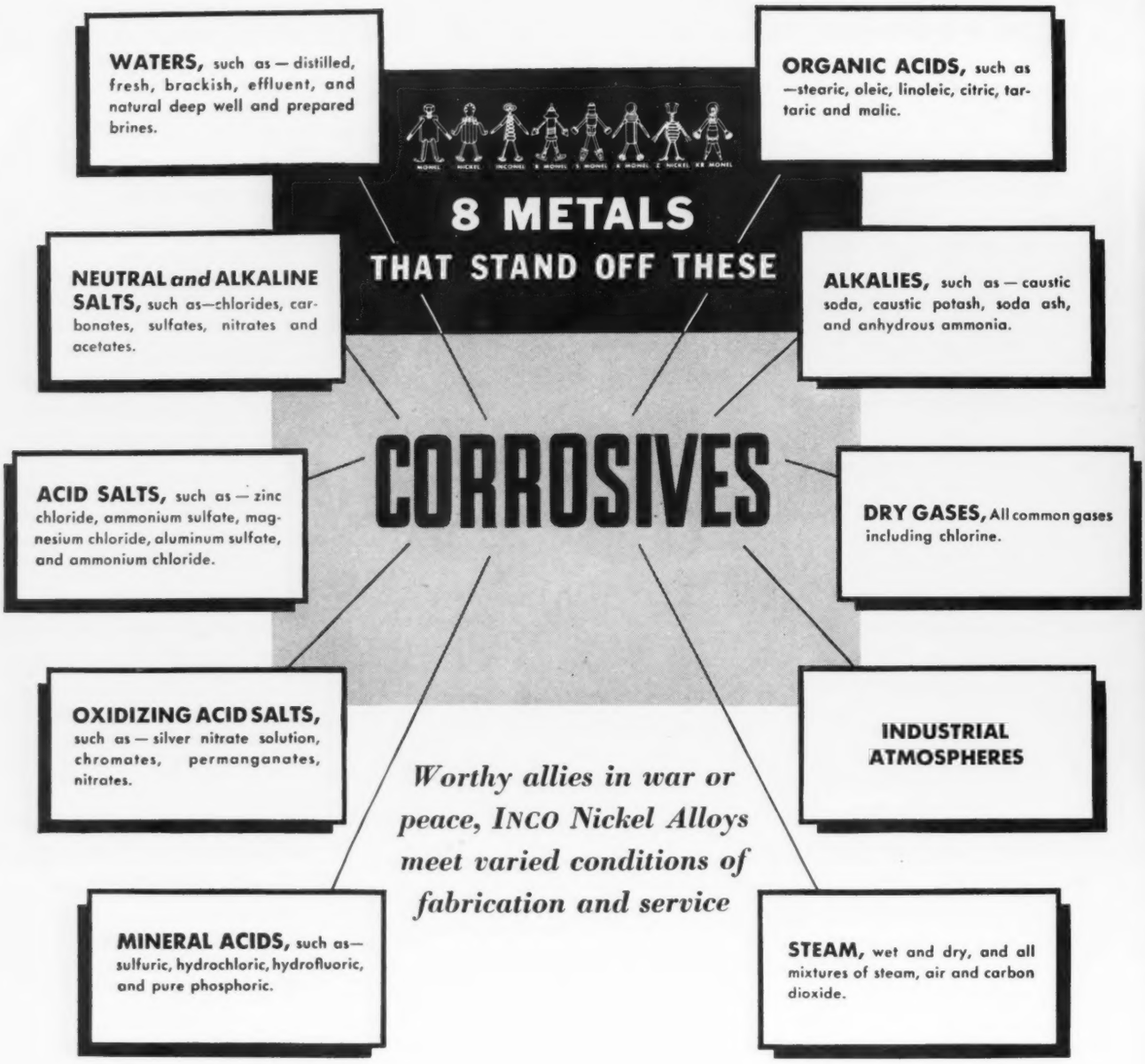
Every American Industry today needs the assistance of Taylor Instruments in speeding up *all* production. Taylor Instruments should be helping you do *your* part toward winning the war. What are your specific needs? Let us help *you*. Taylor Instrument Companies, Rochester, N.Y., and Toronto, Canada. Makers of the famous "Not 1 but 5 Fulscope Controller."

Taylor

Indicating / Recording Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS

★ **KEEP ON BUYING U. S. DEFENSE BONDS AND STAMPS** ★


WATERS, such as — distilled, fresh, brackish, effluent, and natural deep well and prepared brines.
ORGANIC ACIDS, such as —stearic, oleic, linoleic, citric, tartaric and malic.
8 METALS
THAT STAND OFF THESE
NEUTRAL and ALKALINE SALTS, such as—chlorides, carbonates, sulfates, nitrates and acetates.
ALKALIES, such as — caustic soda, caustic potash, soda ash, and anhydrous ammonia.
CORROSIVES
ACID SALTS, such as — zinc chloride, ammonium sulfate, magnesium chloride, aluminum sulfate, and ammonium chloride.
DRY GASES, All common gases including chlorine.
OXIDIZING ACID SALTS, such as — silver nitrate solution, chromates, permanganates, nitrates.
INDUSTRIAL ATMOSPHERES
Worthy allies in war or peace, INCO Nickel Alloys meet varied conditions of fabrication and service
MINERAL ACIDS, such as— sulfuric, hydrochloric, hydrofluoric, and pure phosphoric.
STEAM, wet and dry, and all mixtures of steam, air and carbon dioxide.

New members added in recent years make the INCO Nickel Alloys a useful, well-rounded group. From among them you can usually select a metal to meet the most severely corrosive conditions.

All of the INCO Nickel Alloys are strong, tough and exceptionally resistant to corrosion. In addition they offer individual characteristics which meet widely varying fabricating and service requirements.

With the Nation at war, supplies of Monel, Nickel and INCO Nickel Alloys are needed for war production and for meeting the needs of our armed forces. The International Nickel Company will continue to present information for the benefit of metal users who are working for victory and planning for the future. Let us help you determine the proper INCO Nickel Alloy to use. For full information on these metals write for technical literature. Address:

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall St., New York, N. Y.

★ ★ ★

Mechanical Properties of INCO Nickel Alloys

All of these corrosion-resistant metals possess outstanding qualities of strength, toughness, wear resistance, and fabrication. In addition, individual alloys are characterized by anti-galling and anti-sparking properties, resistance to elevated temperatures, amenability to heat treatment, exceptional resilience, and magnetic properties ranging from definitely magnetic to non-magnetic.

INCO NICKEL ALLOYS *ARE YOUR ALLIES*

MONEL • "K" MONEL • "S" MONEL • "R" MONEL • "KR" MONEL • INCONEL • NICKEL • "Z" NICKEL

Sheet . . . Strip . . . Rod . . . Tubing . . . Wire . . . Castings

These Are The "MUST" Specifications For Units To Be Employed In Victory Production Lighting

They MUST

STAND UP DAY AND NIGHT

. . . HEAVY DUTY WAR PRODUCTION SERVICE MUST NOT BE INTERRUPTED BY LIGHTING EQUIPMENT FAILURE DUE TO CHEAP OR FLIMSY CONSTRUCTION.

BE PROPERLY DESIGNED

. . . TO SHIELD THE EYES OF WORKERS AGAINST GLARE AND PROVIDE EFFICIENT, UNIFORM LIGHT DISTRIBUTION.

CONSERVE POWER

. . . BY PROVIDING WITH THE ABSOLUTE MINIMUM OF POWER CONSUMPTION THE HIGH LIGHT LEVELS OF 35 TO 100 FOOT-CANDLES REQUIRED FOR VICTORY PRODUCTION.

NOT WASTE LIGHT

. . . THE REFLECTING SURFACE MUST HAVE HIGHEST PRACTICAL REFLECTION FACTOR AND MUST BE EASILY MAINTAINED AT ORIGINAL EFFICIENCY.

CONFORMANCE IS ASSURED WHEN YOU SPECIFY

BENJAMIN FLUORESCENT LIGHTING EQUIPMENT

THE lighting must not fail! There can be no blackout of production due to lighting equipment failure. Neither can there be waste of power or light! Day and night production must be maintained at its highest possible rate with lighting that speeds seeing, conserves the eyesight of the workers, and helps them to sustain production speed and product quality, with a minimum of fatigue.

These are the specifications met by Benjamin Fluorescent Lighting Units. Designed and constructed with that extra safety factor of strength and durability which Benjamin through 40 years of experience has found essential in industrial lighting, these units can be depended upon to provide lighting that will not fail! Protected by Benjamin life-time porcelain enamel finish, these units are constructed to withstand the severe mechanical strains to which they may be exposed in ordnance and industrial plants . . . smoke, fumes, grime, dust, weather, etc. With this finish, maintenance of original lighting efficiency is assured as this surface does not corrode, tarnish, oxidize or decompose and can easily be cleaned and restored to original efficiency with soap and water.

Available for the lighting of plants engaged in the production of war materials and essential civilian production are: Benjamin RLM "Lite-Line" equipment which provides continuous lines of light across the entire ceiling . . . Benjamin RLM "Stream-Flo" Units, and Benjamin Dust Tight Fluorescent Lighting Units, for requirements of armament plants and other Type II-G hazardous locations. For complete details, address Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Illinois.

WARRANTY OF PERFORMANCE AND CONSTRUCTION
The Trade Mark
BENJAMIN
on Fluorescent lighting equipment is your assurance of correct design, heavy-duty construction and efficient performance backed by forty years of specialization in manufacturing lighting equipment for commerce and industry. Reflectors, auxiliary control equipment, sockets and other component parts of these fixtures are engineered for co-ordinated operation with Mazda Fluorescent Lamps to give maximum light output and trouble-free operation.
Benjamin Fluorescent Lighting Fixtures are warranted to comply with all recognized illumination, electrical and mechanical standards and applicable RLM standard specifications and to comply fully with specifications and performance data published for each type of unit by Benjamin Electric Mfg. Company. They are fully warranted against defects in material and workmanship and are built with an extra safety factor of strength to insure long life and maximum durability.
All auxiliary control equipment is certified by Electrical Testing Laboratories to conform with the latest specifications for such equipment sponsored by the Mazda Lamp Manufacturers. Complete units and all auxiliary control equipment and sockets are listed by Underwriters' Laboratories as meeting National Electrical Code requirements as evidenced by Underwriters' inspection label affixed to each unit
COMPLIANCE WITH
LABORATORIES

BENJAMIN
TRADE MARK
World Leader in Industrial
LIGHTING EQUIPMENT
DISTRIBUTED EXCLUSIVELY THROUGH ELECTRICAL WHOLESALERS

World War II found INGACLAD ready to help Conserve Vital Alloys

Users of IngAclad include:

American Cyanamid Co.
R. D. Cole Mfg. Co., Newnan, Ga.
Dow Chemical Co.
E. I. DuPont de Nemours Co.
Greenville Steel & Foundry Co., Greenville, So. Car.
Graver Tank & Mfg. Co. Inc., E. Chicago, Ind.
Hercules Powder Co.
Holliston Mills, Kingsport, Tenn.
Jeffrey Mfg. Co., Columbus, O.
Leader Iron Works, Decatur, Ill.
Monsanto Chemical Co.
Sayles Finishing Plants, Inc.
Sheet Metal Engineering Co., Chicago.
Southern Bleachery & Print Works, Taylors, So. Car.

● More than 10 years ago, a method of conserving vital alloys was developed by the Ingersoll Steel & Disc Division of Borg-Warner Corporation.

● This achievement in steel makes possible a saving of as much as 80% in the stainless steel required for many jobs.

● With a record of more than 10 years of continuous satisfactory service in the Process Industries, it is now performing a valuable service to the Allied cause.

● Not only does IngAclad conserve vital alloys, but also effects marked economies in material costs.

● Ease of fabrication and welds that are good for the life of the equipment are also characteristic of IngAclad.

● The reason IngAclad is so satisfactory in combating corrosion is that it is not a *substitute* for stainless, but actually is solid stainless steel applied uniformly and inseparably to mild steel.

We Produce Solid Stainless, Too!

As producers of both the solid stainless metal and Stainless-Clad Steel, we are able to advise you, without prejudice, as to which material is more practical for the particular service required.

If your stainless requirements are essential to the Nation's victory program and permit the necessary priority rating, we will do our very best to serve you. Inquiries are invited.

INGERSOLL STEEL & DISC DIVISION • BORG-WARNER CORPORATION
310 South Michigan Avenue • Chicago, Illinois
Plants: Chicago, Ill.; New Castle, Ind.; Kalamazoo, Mich.

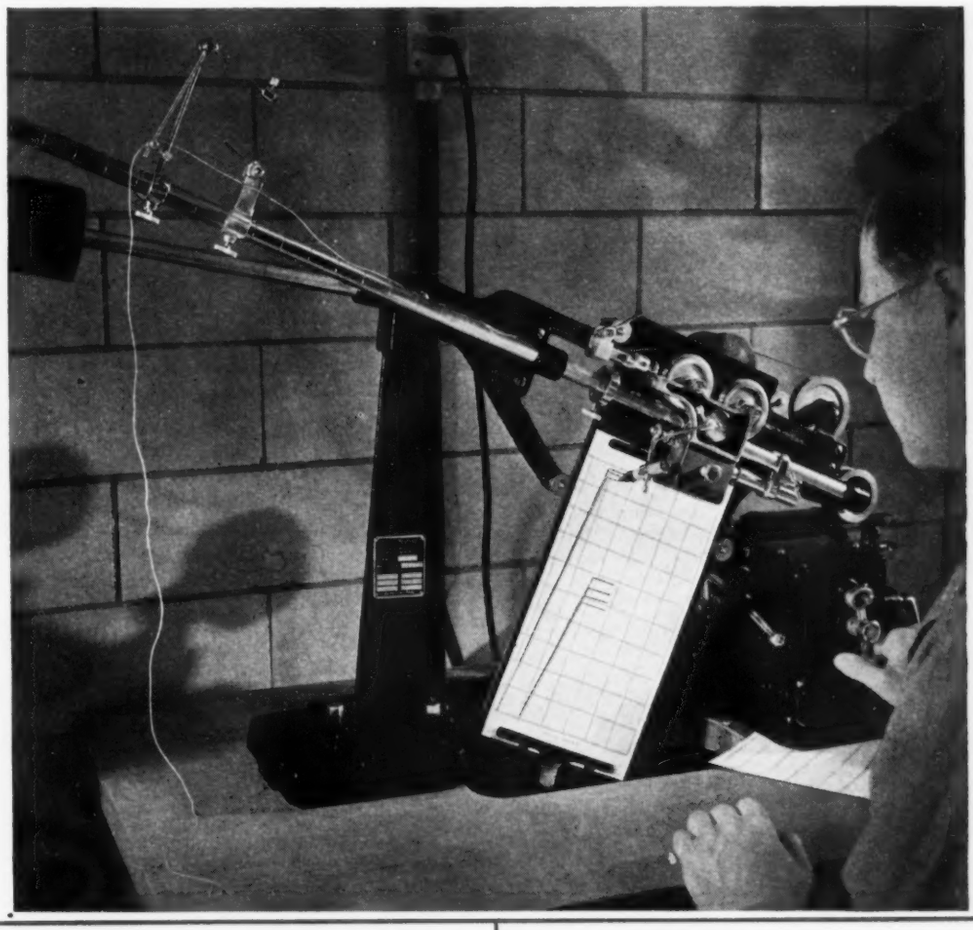
INGACLAD
STAINLESS-CLAD STEEL
"A Borg-Warner Product"

Why is a yarn ~~weak~~ *strong*?

SCOTT INCLINED PLANE SINGLE STRAND

YARN TESTER—

THIS machine is designed to measure the tensile strength and the elastic and plastic properties of individual filaments and yarns. The yarn to be evaluated is attached to the rolling weight, and as the plane on which the rolling weight rests is inclined, the tension on the yarn is gradually increased until the breaking point is reached. The friction between the rolling weight and the surface of the plane is reduced to a minimum and an extremely accurate measurement of the tensile strength of fine yarns is obtained. Tension and elasticity data are automatically recorded on a graph, thus giving a permanent record of the sample.



THREE WORDS ARE OUR WATCH-WORDS! *Precision, accuracy, and results* —these are the goals of the Rohm & Haas Textile Evaluation Laboratories in testing and analyzing the cloths and fabrics submitted to us by a textile industry just rolling up its sleeves to meet the increasing demand of a wartime economy.

In these modern, completely-equipped laboratories our technicians, skilled in the handling of fabrics of all kinds, operate delicate testing machines; each machine is specially designed to test precisely and accurately *one* property of a fabric or yarn. Our laboratories are equipped to evaluate and test almost any property which may conceivably be desired in a fabric, whether it be wet strength of a light, tough rayon parachute cloth, crush resistance of the softest velvet, or tensile strength of a single cotton thread.

For a scientific treatment of your particular textile problem, the precision and versatility of the Rohm & Haas Textile Evaluation Laboratories are at your service for the duration.

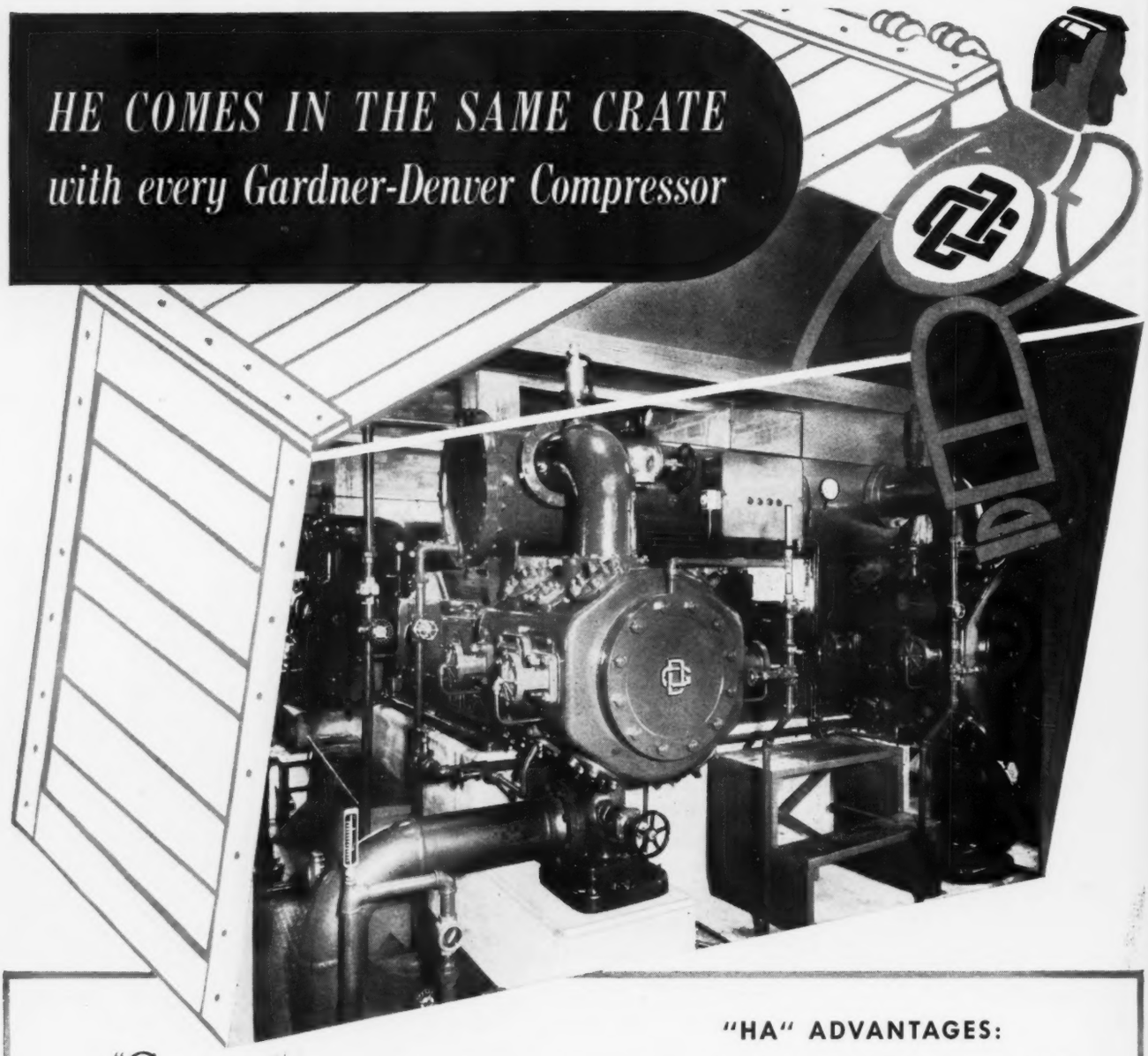
★ **LYKOPON**
★ **FORMOPON**
★ **PROTOLIN**
★ **RHONITES**
★ **RHOPLEXES**
★ **DEGOMMAS**
★ **TRITONS**
★ **RHOTEXES**

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Specialties and Finishes.. Enzymes.. Crystal-Clear Acrylic Plastics.. Synthetic Insecticides.. Fungicides.. and other Industrial Chemicals

HE COMES IN THE SAME CRATE with every Gardner-Denver Compressor



"Gardy" DuMuch is a mighty handy fellow to have around your plant these days. For he represents the extra performance, the extra efficiency—the extra low-cost operation of Gardner-Denver "HA" Two-Stage Horizontal Compressors.

The sustained air output of these compressors is the result of better design, advanced engineering methods and the extensive use of GarDurloy—the modern, high strength cast iron developed by Gardner-Denver metallurgists.

The extra service you'll get with a Gardner-Denver "HA" compressor in your plant is attested by scores of user reports from all parts of the country. For full information, write Gardner-Denver Company, Quincy, Ill.

"HA" ADVANTAGES:

1. Frames, cylinders, pistons and other vital parts of Gar-Durloy for added strength and hardness.
2. Unrestricted air passages and large valve areas assure high overall efficiency.
3. Larger water jacket areas assure a cooler compressor.
4. Timken main bearings provide an unchanging air gap for the life of the machine.
5. Capacities from 468 to 1854 cubic feet displacement per minute.

GARDNER-DENVER PRODUCTS HELP SPEED DEFENSE

TYPICAL USER-REPORT: Our 'HA' has operated 24 hours per day, 7 days per week for the past eight years, and has required only routine attention. Roller main bearings have never been touched at any time.

GARDNER-DENVER *Since 1859*

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.

S. Navy "E" Insignia (twice size)
warded em- yees of Textile Machine
Works for standing production of
Naval Ord- ce materials for defense.

Stocking dreams come true . . . Every woman knows that her stocking dreams can come true only through the quality of the fabric. Every hosiery manufacturer knows that his fabric can only be as good as the needles will produce—that higher quality means better business. . . . Keep your knitting machines young and effective with TMW Needles.

TEXTILE MACHINE WORKS • READING, PA.

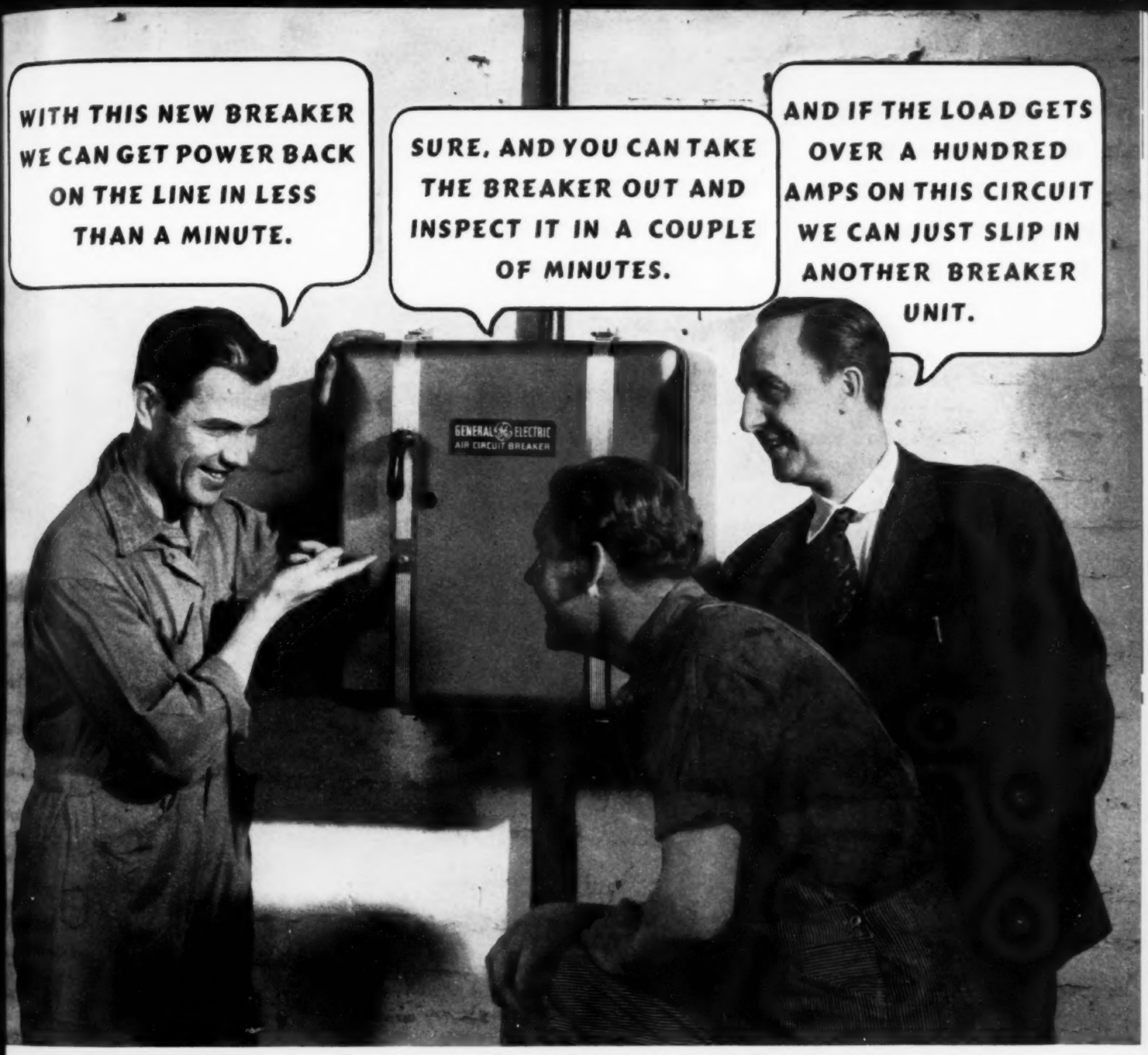
U. S. Navy Ordnance Flag and "E" Pennant awarded Textile Machine Works for outstanding production of Naval Ordnance materials for defense.

"The burden which is well borne becomes light."

OVID

Regardless of the fibre used, the new READING 30-section 51-Gauge Full-Fashioned Knitting Machine produces 104 per cent more volume and 156 per cent more value than ordinary 20-section 42-gauge machines. . . . *And remember: Money invested in modern machinery serves as insurance for your total investment.*

TEXTILE MACHINE WORKS • READING, PA.


WITH THIS NEW BREAKER WE CAN GET POWER BACK ON THE LINE IN LESS THAN A MINUTE.
SURE, AND YOU CAN TAKE THE BREAKER OUT AND INSPECT IT IN A COUPLE OF MINUTES.
AND IF THE LOAD GETS OVER A HUNDRED AMPS ON THIS CIRCUIT WE CAN JUST SLIP IN ANOTHER BREAKER UNIT.
GENERAL ELECTRIC
AIR CIRCUIT BREAKER

Here's Why YOU'LL Like This New G-E Removable Breaker

THIS air circuit breaker is built to meet today's demands for quick installation, and dependable protection for continuous production. Its features include a simple ingenious new method of mounting and a convenient, modernized enclosing case, which combine to give you a removable breaker that is easy to install, easy to operate, and easy to inspect.

We call it the *3-minute breaker*. You can re-establish service after temporary faults in less than *one* minute . . . inspect the breaker unit in safety—away from live parts—in less than *two* minutes . . . and where changed load conditions call for a different-rated breaker of the same type, the old unit can be removed and a new one installed in less than *three* minutes.

Give your production, equipment, and personnel complete protection. Install these breakers in lighting, power, and motor circuits —up to 600 volts. They will protect both the circuit wiring and the apparatus connected to the circuit. A new pictorial booklet (GEA-3600) tells where and how to use them. For a free copy, call the G-E office near you, or address General Electric, Schenectady, New York.

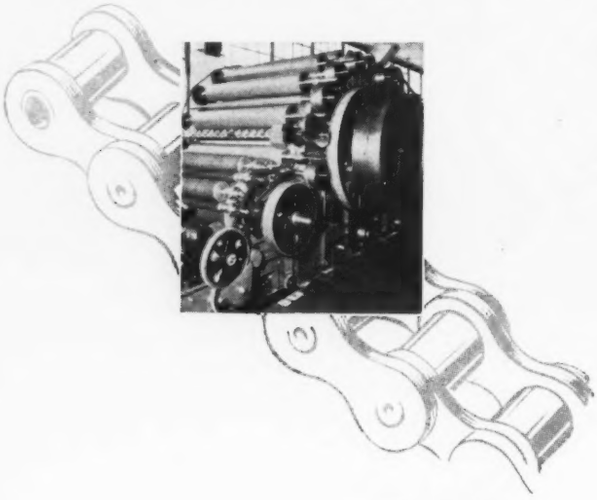
GENERAL ELECTRIC

860-20-7500

THE BREAKER WITH THE DISCONNECT FEATURE

HOW to get more from your machines QUICKLY!

You can, and easily, merely by eliminating these three power transmission "bugaboos":



A *Slippage*—a slipping drive never allows peak machine production.

B *Repairs*—machines shut down for drive repairs are dead weights on any production schedule.

C *Power loss*—you deserve as near as possible 100% return on your power investment.

Why use BALDWIN Roller Chain Belts?

● Baldwin roller chain belts are 98.6% efficient on long or short centers. They eliminate slippage; they last longer, they run quietly.

By replacing with Baldwin roller chain belts—a few gear drives here, a few belt drives there—on cards, looms, garnetts, printing machines—you'll gain an immediately noticeable improvement in production.

For further explanation of these advantages, call the Baldwin man. Baldwin Duckworth Division, Chain Belt Company, 346 Plainfield Street, Springfield, Mass.

PLEASE NOTE

Although our men and our plants are on an "all out for victory" basis these days, your inquiry will receive prompt attention. Naturally, delivery of B-D products is dependent upon the Priority of your needs.

Positive!

THAT'S BALDWIN ROLLER CHAIN BELTS

TURNING WAR-TIME PROBLEMS INTO PROCESSING PROGRESS

WOOLEN *and* WORSTED OILS *that beat olive!*

Whatever became of the woolen mill man who used to say he'd have to close his mill if he couldn't get olive oil? ★ He's still on the job, turning out millions of yards of army uniform cloth, or shirtings, or blanketing, or fine worsteds. And at his elbow is Scientific Oil Research, which has found the way to replace olive oil—and many other processing products facing a war-time shortage. ★ But the surprising result is that these new developments in almost every case are proving superior to the staple they replaced. ★ Ask about *SULFOLS* for worsteds, that definitely beat olive oil . . . and Houghton's Wool Oils for every grade of wool being made today.

E. F. HOUGHTON & CO.

303 W. Lehigh Ave., Philadelphia, Pa.

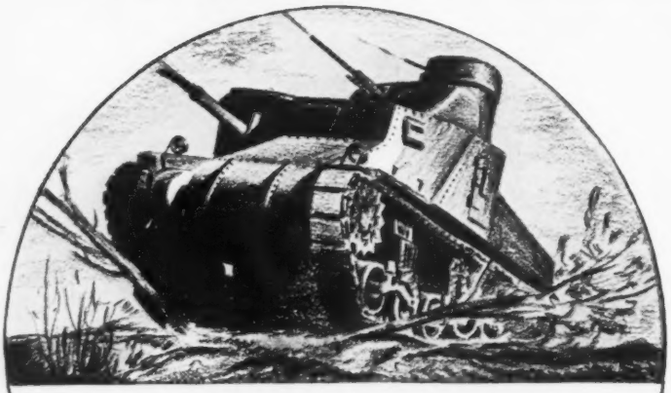
TODAY—MORE THAN EVER, EXPERIENCE COUNTS!

HOUGHTON

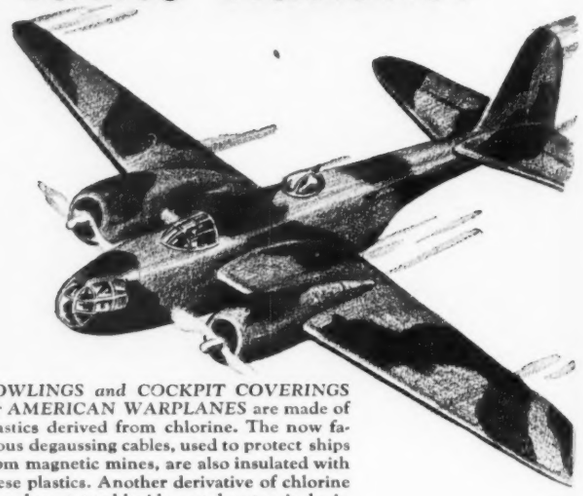
PRODUCTS FOR THE TEXTILE INDUSTRY

CHLORINE GOES TO WAR

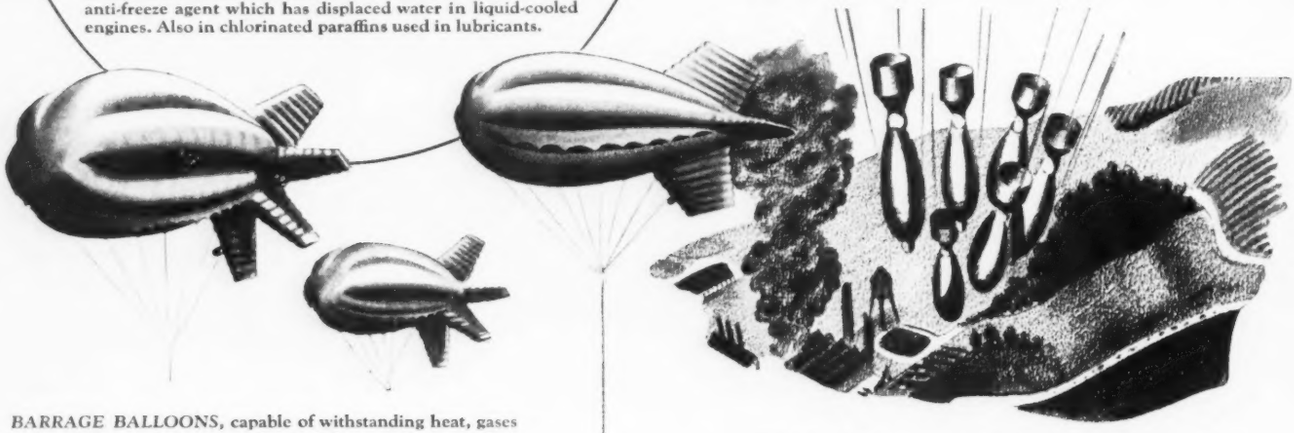
as America mans its battle stations!



HI-OCTANE GASOLINE for U. S. TANKS and PLANES is produced from ordinary gasoline and tetraethyl lead. Rapid precision-fitting of tank and plane parts demands trichlorethylene, a degreasing solvent. Both tetraethyl lead and trichlorethylene require large quantities of chlorine. Chlorine is also used in the manufacture of diethylene glycol, the anti-freeze agent which has displaced water in liquid-cooled engines. Also in chlorinated paraffins used in lubricants.

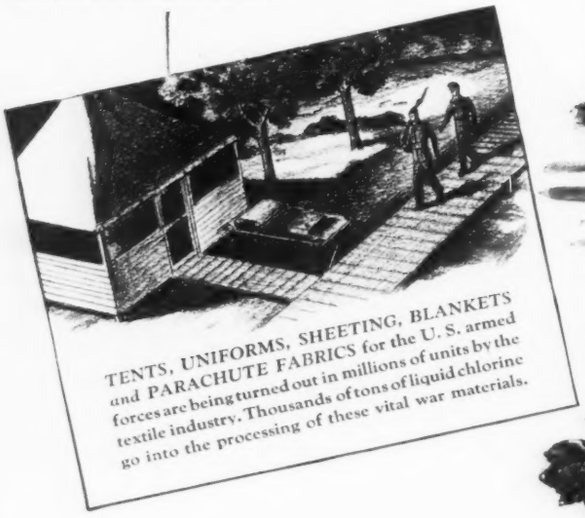


COWLINGS and COCKPIT COVERINGS for AMERICAN WARPLANES are made of plastics derived from chlorine. The now famous degaussing cables, used to protect ships from magnetic mines, are also insulated with these plastics. Another derivative of chlorine is carbon tetrachloride, used extensively in fire extinguishers for tanks, planes and trucks.

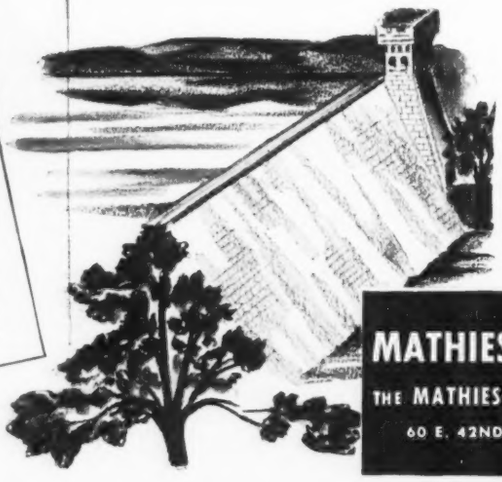


BARRAGE BALLOONS, capable of withstanding heat, gases and sunlight, are being manufactured from synthetic rubber. America's fast-growing production of synthetic rubber for protective balloons and other wartime needs has put an extra load upon the chlorine industry.

ALL-OUT PRODUCTION of MUNITIONS requires large amounts of chlorine, especially for processing of cotton linters for smokeless powder and other explosives.



TENTS, UNIFORMS, SHEETING, BLANKETS and PARACHUTE FABRICS for the U. S. armed forces are being turned out in millions of units by the textile industry. Thousands of tons of liquid chlorine go into the processing of these vital war materials.



U. S. BASES and ARMY CAMPS require large quantities of chlorine for water purification and sewage treatment. This widespread use of chlorine is in addition to large-scale requirements of state and municipal water works systems.

MATHIESON CHEMICALS

THE MATHIESON ALKALI WORKS, (INC.)

60 E. 42ND STREET, NEW YORK, N. Y.

LIQUID CHLORINE . . . SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . BLEACHING POWDER . . . HTH PRODUCTS . . . AMMONIA, ANHYDROUS and AQUA . . . FUSED ALKALI PRODUCTS . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS . . . SODIUM CHLORITE PRODUCTS

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TEXTILE WORLD (formerly *Textile World Journal*) with which are combined *Textiles*, *Posselt's Textile Journal* and *Textile Advance News*. Published monthly. United States and Possessions and Latin American Republics, $1.50 a year; Canada and all other countries, $2. U. S. currency or 12 shillings. Single copy 25c. Annual index in "Textile World Yearbook & Catalog."

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IN THE NEXT

Each year, for many years, TEXTILE WORLD has published its Annual Knitting Number in April in conjunction with the Knitting Arts Exhibition. This year, that Exhibition is a casualty of the war; its cancellation has just been announced.

One of the vital functions of the April issue of TEXTILE WORLD has been to bring a report of progress to those unable to attend the Exhibition in person. This year, that means everybody. Technical developments in hosiery, underwear, and outerwear manufacture will not be reviewed in an exposition hall this year; the job will be done in the pages of TEXTILE WORLD. Consequently, our April issue, always extremely important, becomes a "must" in 1942.

Exhibition, or no exhibition, the knitting industry has a job to do—and a big one. In fact it has a dual job: outfitting our armies and keeping civilians going, to the maximum extent.

On the first phase, TEXTILE WORLD's Special Section in its April, 1942, issue will include articles on: Knit Goods for War Purposes; Why the Quartermaster Rejects Knit Goods; Finishing Knit Goods for Military Purposes. On the civilian side, the content will include: Knitting Rayon and Cotton Full-Fashioned Hosiery; Finishing Rayon Hosiery; Throwing Rayon Hosiery Yarns; Fixing Full-Fashioned Machines; Fixing Circular Machines.

Members of the industry can't go to Atlantic City to see what's happened in knit goods; consequently, TEXTILE WORLD will bring the story to them in their offices or their homes.

CUSHIONED SPINDLES ASSURE...

Smoother Yarn!

SPINDLES that assure more uniform tension and twist . . . produce smoother, stronger yarns . . . are proven results of using *Texaco Spindura Oils.*

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FOR YOUR ENJOYMENT

FRED ALLEN every Sunday night. See your local newspaper for time and station.

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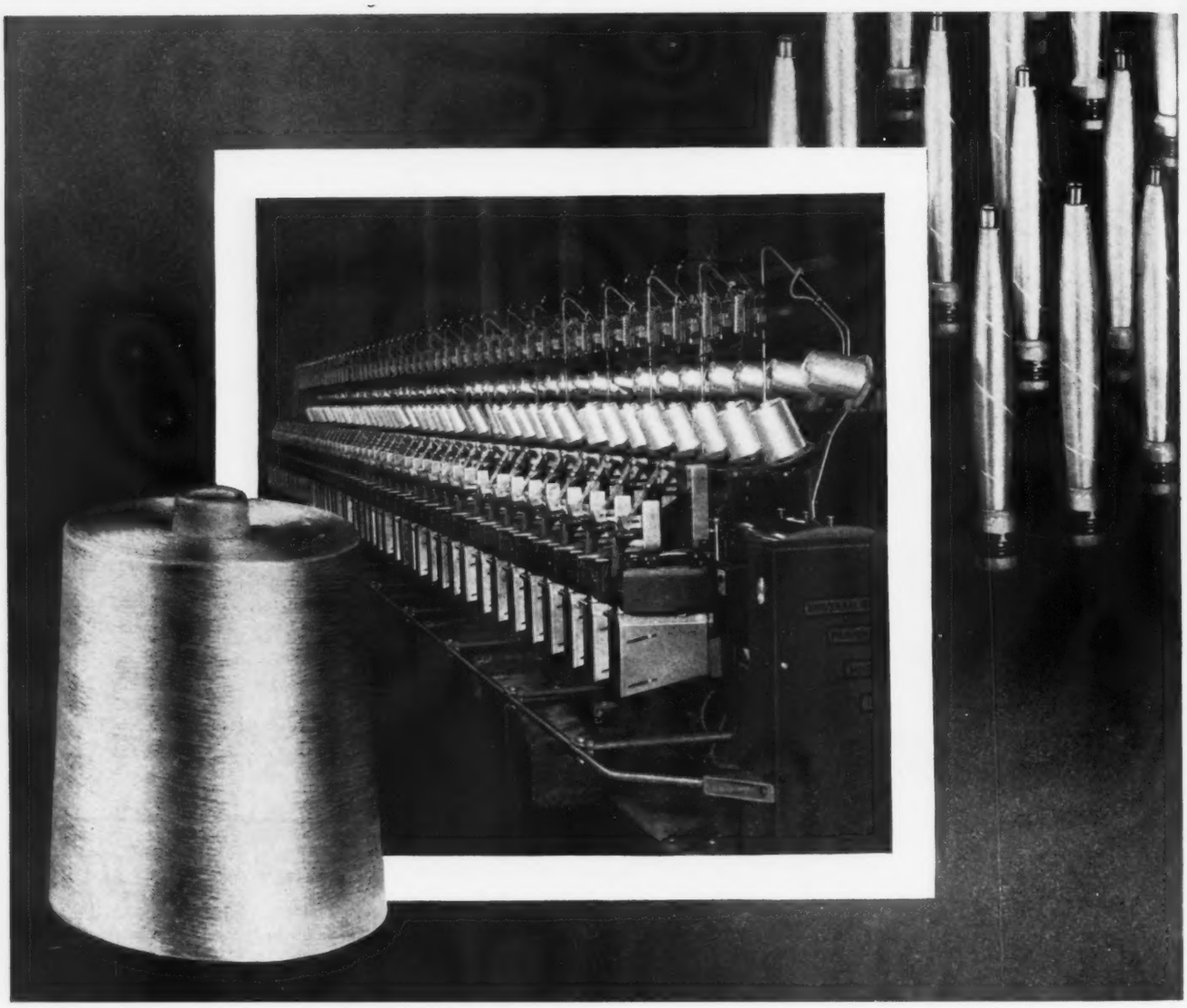
FOR THE TEXTILE INDUSTRY

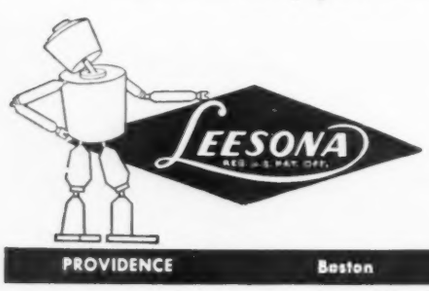
RETURN METAL DRUMS PROMPTLY . . . thus helping to make present supply meet industry's needs and releasing metal for War Needs



Cone to Filling Bobbins
at HIGH SPEED, LOWEST COST

The high speed and automatic winding features of the Universal Automatic offer great savings in time and cost — and the bobbins are giving excellent results in high-speed looms weaving quality fabrics.

The spindle is stopped while the full bobbin is carefully placed in a box in such a way that the rings do not come in contact with yarn. With the full bobbin out of the way, the Traverse Wheel is automatically returned to the base of the bobbin. An empty bobbin is brought into position, the spindle is started, and a flat bunch is built, after which the Thread Guide is permitted to traverse the full length. All this is done without the attention of an operator.



See our catalog in TEXTILE YEARBOOK

UNIVERSAL WINDING COMPANY

PROVIDENCE Boston Philadelphia Utica Charlotte Atlanta

"Ten Silver Months . . ."

"EVERY WEAPON *we make today is worth ten that we might produce next year; for this year – 1942 – is the critical year in the existence of the United States.*"

This grim challenge was thrown at American industry by Donald Nelson in his first speech as chief of the War Production Board. He was speaking to a group of business paper editors, called together to receive at first hand Mr. Nelson's urgent message to the industries they serve.

"We've wasted the golden months", he declared, "the months in which we could have expanded our steel industry, our chemical industry, our copper industry, and all the others, so that we would have plenty of everything. But we still have ten silver months – the months that remain in 1942–and in them we can do things that we never thought possible."

To that objective Mr. Nelson has dedicated his high talents and boundless energy. And to that task he asks American industry to apply the full measure of its resources and skill.

That challenge should be all that it takes to exact from industry the last ounce of its energies. For by now we all can see that in this war the American way of life is at stake. American industry is the essence of the American way of life. Neither can survive without the other. So, even if it had no better reason, industry must go all out to win this war as a measure of self-preservation. Here self-interest and patriotic duty are synonymous. American industry cannot afford to let America lose this war.

The 1942 job is crucial. If it is well done we have a chance to win. If it is badly done we cannot possibly win. There is the measure of the responsibility that now rests upon the shoulders of industrial management.

It is not just Donald Nelson who asks this of industry. He speaks for the millions of fighting men – on land, at sea, in the air – the world over, whose eyes turn so desperately to the workshops of America. There and there alone can they see the hope of victory.

The people of America are not going to let those men down. They demand of industry every effort and every sacrifice that may be necessary to back them up. On that score, American industry stands, of necessity, on trial before our people. It must come through – or else!

* * *

As industry goes all out to meet this demand, its management asks of those who set its tasks and supervise its performance the utmost possible cooperation. It asks of them specifically an understanding of its problems and a chance to work them out without unnecessary interference. It asks for protection against attack from the rear while it concentrates its energies against the common foe. It asks a truce on economic reforms and social experiments that have nothing to do with winning the war and that are bound to arouse misgiving and mistrust amongst the proprietors of industry. Above all, it asks that it be not made a political scapegoat for every deficiency that is sure to develop in the confusion of a war effort.

This does not mean that industry resents honest criticism or constructive direction. Neither does it mean that it is unwilling to do its best unless it can have its own way in all things. The managers of industry are practical men. They know better than anyone else that unprecedented conditions call for new methods, that they must be open-minded to every criticism sincerely directed toward winning the victory. They know that no one can afford to be smug in the face of a national crisis.

There would be no point to my rehearsing here the pros and cons of such criticisms. Time is too short for that. Only in its performance can industry write a convincing answer to its critics. But as a help toward the achievement of that performance, I should like to clear up, if I can, one prolific source of misunderstanding and mistrust.

I refer to the solicitude of industrial managers as to where their companies may find themselves after the war. *This concern for the future sometimes is misinterpreted to mean that management is blind to the urgency of the present. But it does not mean that. It is a perfectly natural anxiety that must be felt by any responsible management operating under the American enterprise system – which is one of the things we are fighting to preserve.*

Under our system, the managers of industry cannot but feel a sense of responsibility to its owners, not merely for current dividends on their investments but also for the conservation of their properties. That means they must feel some concern over what may happen after the war to a business that now must go all out to help win the war. And their concern is but part of a general concern over what may be the effect of the war on the whole American way of life, preservation of which is our reason for being at war.

To give practical effect to that concern under present conditions is one of the problems of management. It is not an insuperable problem. Competent management will be able to surmount it, I am sure. But the right kind of help from those in authority can make the job a lot easier. And let us note in passing that the problem cannot be written off, as some critics of business seem to think, merely by setting off against it the profits that business can make on war contracts. That misses the whole point.

For a business enterprise is not, as many seem to think, just a "profit-machine." It is not set up and operated by its owners and managers for the sake of this month's or this year's profits, without regard to any other consideration.

The fact is that any worth-while business must operate as a going concern. It consists not only of stockholders and managers, but also of employees, markets, distributors, and dealers. Mostly, I might say, of markets, distributors, and dealers. They are the "reason for being" of any business, the source of its payrolls and its profits.

No competent management wants to scrap such essential elements of its business just for the sake of war-bred profits, however large they might look . . . at the moment. Most of the original reluctance to get into arms production, for which industry has been criticized, was not due to a "greed for profits", as has been charged. Rather did it arise from management's mistrust of "war profits" that can be made only by sacrificing the essential elements of a healthy business.

* * *

But now industry faces a dire national emergency. The survival of our country and all its institutions – including American business–is at stake. So management must shape its course to meet without stint every need of the war

effort. That means it must subordinate to that effort every other concern. To lose the war is to lose all. We must first win the war if we would save anything.

To the men of management that presents a grave responsibility. It is fair to ask whether government can do anything to help them meet it. One simple thing I think government can and should do. It cannot dissolve all the concerns of management, but it can help substantially.

Government should do all it can to help management conserve those assets of business that will contribute to post-war reconstruction, when that can be done without prejudice to getting on with the war.

Let me explain. Broadly speaking, every business comprises three elements. One is its tangible assets – its factories, machinery, equipment, and materials. Another is its productive capacity – its management, organization, trained working force. A third is its intangible assets – the goodwill, familiarity, acceptance, and recognition that it enjoys amongst its dealers, customers, and prospective customers.

When the nation goes to war government becomes the one dominant customer of a business. Of these three elements, the first two – plant facilities and organization – become of paramount importance to the job in hand. But so far as the government buyer is concerned, the third drops to minor importance.

But that third element cannot be ignored by the managers responsible for that business. For it will be their mainstay when they must rebuild that business after the war, when government has lost all interest in its existence, except as a source of tax revenue. That is why government can help greatly if now, during the war, it recognizes the legitimate concern of management to conserve those assets that will be essential to survival after the war.

Everyone recognizes the obligation of government to demand that the individual business go all out for war production, to forbid the production of goods not essential to wage war and to commandeer those that are, to require that a business sacrifice its markets and disrupt its distribution organization. No one questions the right of government to restrict arbitrarily the amount of earnings that a business may retain as profit from its war activities. In short, no one questions the right of government to become the dominant partner in any business that may be needed to win the war and, as dominant partner, to put the national need above any conflicting interest of the business.

But, as it does all this, government should remember that the survival of that business is staked on the public's knowledge and use of those discontinued or commandeered products, on the stability of that crippled dealer organization, on the ability of the business to maintain its standing in a market-place from which, temporarily, it may be barred.

And government can help management to deal with the exacting task it now faces, if it will do all it can to avert the needless sacrifice of business interests that do not conflict with war needs, if it will but remember that one of these days, that business again will be on its own, gathering up whatever resources it may have left, recreating its markets, rebuilding its distribution channels, reestablishing itself as a going concern . . . and doing all this in a competitive world without benefit of war orders.

The only foundation upon which any business can hope to rebuild when that day comes is its customers' memory of its name and their understanding of its products. Whatever credit may be coming to it for its war effort will not avail it very much if it permits itself to be forgotten. Its chief assets in that day will be the identity, recognition, and acceptance it still enjoys amongst those to whom it must look for business.

That is why so many business men, already going all out on their war jobs, become apprehensive whenever some word or act of a legislator or government official seems to question the validity of their sales, promotion, and advertising activities during the war. For they know that it is by such measures alone that any management can hope to conserve – while its business goes to war – the values it will need when it returns to civilian service.

That is why I ask government to do all it can to allay such uncertainties, to reassure business of its desire to help conserve those intangible assets that mean so much to business security. For that, I believe, will strengthen the hand of management in a big way as it goes all out on the vital job Donald Nelson has staked out for industry.

* * *

He has told us that if we are to make these ten silver months productive enough to make up for the golden months that are gone, industry must do things it never thought it could do. That is dead right. For America now finds itself in a position it never thought it could be in.

All too slowly, but very surely, it is dawning upon us that this is OUR WAR. Moreover it was our war long before we knew it or did much about it. So our job today is not merely to match the current production of our enemies. That is not enough. We must produce also enough to match the surplus of resources they had built up before we got started. We must produce enough not only for our own needs, but also for all the United Nations.

Moreover we must produce all that we need for decisive victory, for anything short of that will mean defeat. If we would save the American way of life, we must destroy once and for all the forces that threaten it. A stalemate would mean but an armed truce and what that might do to the American way of life and to American industry no one dares to guess. Victory must mean decisive victory. And this, very definitely is our war.

And just as definitely, this is OUR YEAR. For in this year – 1942 – we must prevent our enemies from achieving an advantage that might put victory forever beyond our reach – despite all our vast resources. It is an appalling fact that victory may slip beyond our grasp – not in 1943 or in 1944 – but during the months just ahead of us.

"Industry's responsibility in all of this is great," says Donald Nelson. "The job will take brains and initiative, but we can do it if we go out with a will."

To Mr. Nelson, that initiative means that industry must lead rather than follow in the march to more intensive use of our machines and our man-power. We dare not wait for new facilities to meet our mounting needs. More and more we must press for more widespread subcontracting and conversion. And he is counting on that initiative, backed by ever more aggressive effort, to avert or to minimize the compulsory measures that now seem imminent.

"We must stop thinking about what we're going to do to the enemy in 1943 and start thinking of what we're going to do to him in March of 1942.We must make today the things we would be making next year . . . if we had the time to spare."

That, says Donald Nelson, is the task of American industry during the next "Ten Silver Months." And to that gigantic task American industry now must bend every ounce of its abundant strength.

President, McGraw-Hill Publishing Company, Inc.

This message is appearing in all McGraw-Hill industrial and business publications, reaching over a million readers.

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

WAR and Textiles

"It All Depends on Me"

THIS WRITER has found what he has been groping for: the answer to the problem of getting the all-out effort of *every* citizen of this embattled and endangered nation. The answer is found in a voluntary civilian movement in Great Britain aimed to apply the meaning of the phrase "It all depends on me" to the successful prosecution of the war.

That movement has been in progress since the early summer of 1940. Remember that early summer? That was after Dunkirk, after the fall of France, and just in the dark of the moon of England's darkest hour. That was when the world generally believed that Great Britain, too, would fall.

The movement, we are informed, was originated and developed by an individual—the managing director of a company employing some thousands of men and women on essential war work.

On page 58 we print in full the text of a brochure received from England giving the basic psychology of the "It all depends on me" movement.

NOT A SLOGANEER by temperament or profession, and in fact resenting many of the slogans which bedevil mankind, this writer nevertheless finds in this "It all depends on me" slogan the real key to the job ahead of America.

It is the key to the problem of the average American. The fighting man needs no such slogan. He *knows* it all depends on him, or at least soon learns it. But, no matter how greatly we increase our fighting forces, there will always be a far greater number of men and women behind the lines performing ordinary tasks: making war materiel, weaving fabric for military use, running schools, caring for families, publishing necessary information, delivering food, and in hundreds of other ways carrying on the essential business of living, in a nation of 130,000,000 souls.

Each of those men and women—and, from this writer's own family experience, each child—has asked, in bewilderment, since hell first broke loose in this peace-minded nation: What can *I* do?

To have his or her job to do is not enough. It is necessary to relate that job to the total war effort; to become convinced that each job, large or small, is in itself *vital* to the winning of the war.

That is the orientation which the "It all depends on me" movement brings to those millions of people. Read page 58 of this issue, and read it again and again. Bring it to the attention of your community, your local defense agencies, your schools, your churches, your civic clubs. Get them all organized behind the single-minded purpose of "It all depends on me."

Probably a nation-wide organization would help, if it became a simple voluntary inexpensive outfit whose object would be merely to keep the idea alive in all communities.

THIS MOVEMENT would serve still another great purpose. It would divert some of our resentment from leaders of Government, industry, labor, and the Armed Services, toward our own selves. And that would be eminently fair. Since our forefathers decided in 1776 that this was to be a democracy—and since we have maintained it as such, despite the inevitable class inequalities—the final responsibility, the final blame or credit, rests with Mr. and Mrs. J. Q. Citizen.

When things go wrong, it helps us, temporarily, if we can let off steam by declaring that the Navy Department was asleep at Pearl Harbor and in the Normandie dock; that the War Production Board is tied up with red tape; that we gave too much or too little to other nations, depending upon one's point of view; that the OCD was fiddling the Mayris Chaney tune while Singapore burned; that we ought to fire the whole bunch of "them" and get a man on a white horse.

Yes, that helps us temporarily to find an emotional outlet, but it doesn't help to win the war.

And so we get back to the simple fact that every man and woman in this country is "them." We are the ones who elected "them"—and God knows we can't say that the present Government got in by the skin of its teeth. It got in three times by an overwhelming vote of the people. So, we the people carry whatever blame there is, just as we the people will get whatever credit there may be when we finally win the war—*if we do.*

So let's concentrate on "me." On me, and you. On the tires you or I may have stored in the garage; on the sugar you or I may have hoarded; on the defense bonds you or I didn't buy yet; on the apathy of you and me which lets corrupt political machines take hold; on the greed which makes all of us, employers, employees, consumers, put temporary profit above eventual gain; on the lethargy which always lets George do it; on the passing-the-buck attitude which blames everybody except the right guy: you and me.

Before we get through with this mess, practically every family in America will have sons and daughters in danger spots—as soldiers and sailors, as nurses, as targets for bombs. Let's not say that it all depends on "them." Let's say it all depends on me.

Douglas G. Woolf

"It All Depends on Me"

How each of us can apply this phrase to speed up final victory in this war

EDITOR'S NOTE: This is one of the most important documents we have ever reproduced in these columns. It is the text of a brochure unfolding the psychology of a movement which helped England in her darkest hour, and which can help us in this, our darkest hour. After you have read it, read the editorial on page 57 of this same issue—and then do something about it.

HAVE YOU EVER seen a human chain rescue someone from the sea? If you have not you can easily imagine the scene—the figure struggling in the undertow, other figures dashing through the shallows, the formation of the chain, the fight for foot and handhold . . . at last the rescue; one hand alone held out to save, the others locked in a grip as firm as strength and will-power can make it. That last hand was only able to stretch out because the others were immovably fixed. In the mind of each rescuer was the thought: "It all depends on me"; in the heart of each a prayer for endurance. Each knew that failure of one meant failure for all.

It is perhaps difficult to apply so simple an illustration of the phrase "It all depends on me" to our every-day activities, but that is what we must now do because unless we all do it, the war and its distresses will be prolonged.

It requires no effort to see that every human link in the chain of rescuers had an individual responsibility all the greater because self-imposed but all the easier to accept on that account and on account of the immediately foreseeable effects of success or failure.

But how can anyone say of success or failure in this war "It all depends on me"?

The solitary fighter pilot, by reason of his isolation, can apprehend the truth of the phrase, the members of a bomber crew soon learn it.

Sailors in submarines and small naval craft, soldiers in outposts or on patrol know its significance. Doctors, nurses, men and women in dangerous trades instinctively accept it.

How can I come to believe it and, believing, make it the inspiration of my actions from now on?

It is highly probable that one simple deed or abstention in a humdrum existence will cause this war to end as we want it to end. The chief actor or actress will not know it and history will not record it.

It may be that a decision not to put another shovelful of coal on a fire may make available elsewhere, and at some other time, the last few degrees of heat necessary for a boiler to provide power to turn the gun barrel from which will be fired the death-shot of Nazidom.

A bit of gossip withheld may keep Hitler in the dark about some small detail that would give him a complete picture of a plan for his undoing.

A dull message properly transmitted may set in motion the series of operations that will bring disaster to the enemy.

Someone may save the few gallons of water needed to extinguish a fire at a vital point.

Perhaps a housewife by her good management will not only keep her own folk well and strong but will set free food for someone whose task it will be to fashion the fateful bomb.

Possibly one extra capstan operation in the day, a few more holes drilled in a shift, another hundred parts stamped in a week may expedite delivery of the tanks that will lead the way into Berlin.

Who knows?

Who will ever know?

This is the difficulty, but the fact remains that every action of every individual is a link in the chain which will hold us to success or part us from it.

How is it then that all of us are not yet putting forth full effort? Some of us are, some have died in doing it. What of the rest of us? What incentive do we need?

Danger is a spur. Publicity is a spur. If each one of us had his or her physical Nazi opponent there would be no need for discussions like this. The instinct for self-preservation would supply the driving force. Mostly we are our own judge and jury in the question of doing our full duty. If it is not a matter of life or death in the next ten seconds or of "letting the chaps down" in such a way as to attract their disapproval, the test of character is a stern one.

To fail in single combat may be to lose one's life, to fail in team work of a dangerous kind may be to lose one's own and those of others or to forfeit the respect of team mates. But to fall short quietly without any immediate danger to anyone and with no likelihood of exposure may be only to endure a faint prick of conscience soon forgotten.

It is much harder to do our duty when no danger is involved and there is no audience to applaud or censure. All the more reason, therefore, to hold on to the truth that "It all depends on me."

LET US THINK and think hard not of the triviality of what we do each day, but of its tremendous importance. We may be the unknown figure of destiny. It may be our action that is going to end this horror, our abstinence that will provide the last link in the chain of victory.

We may never have heard a gun fire, or a bomb drop. We may never do so, but we are in this war whether we like it or not and it is going to take every ounce of energy, the highest degree of application and the whole of our goodwill to win it. If we are out of the zone of danger but must have its spur we have only to study what happens to Nazi victims. That should be spur enough! Never mind the fact that the danger period is not ten seconds but may be ten months or more; all the greater reason for persistence.

If we must have the approval of our fellows, there are plenty of public activities.

If, however, our own self-respect is good enough for us and is hard enough to earn, we can check our daily activities and their war winning worth against this simple yard stick:

"Have I done everything to-day as though the successful outcome of this war all depended on me?"

If this philosophy of individual responsibility were genuinely accepted and acted upon, Victory would soon be won.

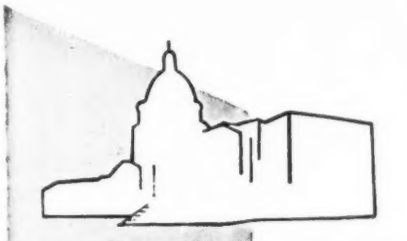
The Government has power to control every material aspect of life, but only the individual can contribute the spiritual power, without which the material side is of little avail.

No power on earth could resist the might of an embattled Britain, every inhabitant of which thought and acted in the spirit of

IT ALL
DEPENDS
ON ME

All War Contracts to Be "Negotiated"

Price to get little attention till award is made—Civilian wool further cut



McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

By BLAINE STUBBLEFIELD

NEGOTIATED CONTRACTS are to replace bidding entirely.

About half of textile machinery plant capacity is scheduled for conversion to military equipment production.

Pressure is increasing for the production of duck, though the call for 180,000,000 yd. is somewhat exaggerated through misunderstanding.

Federal agencies are wrestling with the problem of getting enough burlap and osnaburg to contain the crops and make enough sandbags.

War at sea is threatening cargo space for imported wool, civilian consumption of new wool is cut by WPB from 50% to 20%, and substitute fiber for wool mixes is getting serious attention.

Civilians are up against early acceptance of undyed textiles.

In its first over-all requisition, the War Production Board takes possession of all silk supplies, while the hosiery industry, with Government aid, seeks ways and materials to produce sheer fabric.

Another billion and a half appropriated for Army clothing and equipage brings the Second World War total to over three billion dollars, or three-fourths the cost of the present merchant-marine program.

Donald Nelson, chairman of the War Production Board, was setting up an all-negotiation system as this was written. Nelson sees competitive bidding as an alibi for bad planning and he is getting rid of it.

Under the new procedure, procurement officers will place contracts with the almost-single aim of maximum production. Before awards are made, contracts will be reviewed by a policy unit in Army, Navy or other branch concerned, checking specifications and compliance with purchasing policy. The contract is then signed.

Price gets little attention until *after* the award is made. WPB then reviews the contract for reasonableness of cost and profit, and if these are not satisfactory either to the manufacturer or to the Government, adjustments are made under a re-negotiation clause included in the contract. In fact, contracts will be eligible for reconsideration at any time during their life. This new purchase plan actually is a cost-plus system.

With the price criterion removed from negotiations, other criteria must be set up as a basis on which to choose contractors. These are, mainly: (1) that preference be given the contractor who already is best equipped to speed delivery; (2) that contracts for commercial or semi-commercial goods be placed with small or single-line firms—those that would have a hard time converting to defense production; (3) that where whole industries are inconvertible and possess ample capacity, the general procedure will be to distribute the work more or less evenly.

THIS IS GENERAL INFORMATION obtained by TEXTILE WORLD while the plan was in development; there will be many variations and details. It is a fair assumption that textile contracts will be distributed except in those categories where speed will be achieved by concentration. Contract distribution for employment as originally conceived, and still being pushed by the Production Division, will continue as a motive for spreading the work.

Most of the textile industry needs no conversion to do its war work, and the textile machinery industry has been for many months in process of shifting to war equipment. R. S. Dempsey, chief of the Textile Machinery Section of WPB, says that by the middle of 1942, the big producers will have completed their tooling up and about 40 to 50% of their capacity will be on ordnance work. WPB does not like to say just what ordnance items the textile machinery plants will make, because that would tend to locate vital production for the enemy. Some WPB officials estimate that 25% of the textile machinery industry could produce enough

Appropriations for Clothing and Equipage
Second World War

The world-record 32 billion-dollar 1942 fifth supplemental war appropriation, near passage by Congress at this writing, includes nearly a billion dollars for clothing and equipage. The Quarter-Master-General, Maj. Gen. Edmund B. Gregory, told Congress that for the first time in an emergency the Army of the United States is adequately clothed.

Here is what it is costing the nation to clothe and equip (personally) its fighting men—and there will be millions more:

1940	$26,000,000
1941	672,350,000
1942	286,309,000
1st Supplement	443,123,000
3rd Supplement	13,540,000
5th Supplement	1,525,764,000
1943 Budget Estimate	366,000,000
Total	$3,333,086,000

Undoubtedly the 1943 budget estimate will be vastly increased when Congress acts upon it.

It costs the Government $107.89 to clothe a man when he begins service, plus $54.16 for replacements and additions for a year, making the total $162.05.

Don't try to dope out how many men these huge appropriations will buy clothes for. The figures include equipage, mostly textiles—cartridge belts, bed straps, tents, blankets—in addition to clothing.

By the end of this year we will have in service 3,600,000 men, but that figure will be more than doubled next year. In addition, reserve stocks are being laid in for *any* size Army that may be necessary, and for any extended duration of the war.

The cost of outfitting soldiers is greatly increased by the wide range of sizes that must be maintained, and by the diversity of types necessary for action in all parts of the world from Iceland to Wewak.

parts and new machinery for maintenance and necessary expansion, leaving the other 75% for war work. But these estimates are unofficial; may be high.

In the opinion of Washington officials, the machinery builders in most cases convert their plants willingly, because of metals-priorities difficulties, but they want to continue to serve their customers to a reasonable extent.

Machinery now being built is going first to those mills which will make duck, combed yarn and combed twills, and other constructions in which the Army and Navy are short, Mr. Dempsey said. Duck situation is tight, but not so serious as the industry at first believed. Some misunderstanding was caused by the Army's call for 180,000,000 yd. under this single heading. Actually, the call included large volumes of other fabrics such as heavy twills, sheetings, etc. TEXTILE WORLD was asked by a Quartermaster official to assist in clearing this up.

Some mills producing pile fabrics have been converted to make duck, but at this writing the Army had not bought any of their output, and would not say that it does or does not intend to do so. Presumably the cost factor enters into the decision. Of course the civilian market will take all the duck the pile fabric looms can make, but soon the mills would encounter yarn shortage.

Burlap and osnaburg, to sack the huge volume of foods, and to provide sandbags for war and construction, rate along with duck as a big-volume problem. Some weeks back, WPB and the Defense Supplies Corp. planned to build a burlap and osnaburg stockpile of 200,000,000 yd. The only report of progress came from the War Department late last month, saying it had enough of these fabrics to go "more than eight times around the world," and that sandbags are being produced at the rate of a million a day for Army, Navy, Marines and Civilian Defense.

Civilians have seen the last new supplies of silk, Nylon, linen—and wool is going fast. Even the Army may approach the "horse blanket" type of wool cloth as it builds toward the seven million man objective. WPB's new wool order, cutting civilian worsted utilization from 50 to 20%, and on woolen, cotton and felt systems from 40 to 10% of basic poundage, during the 2nd quarter, 1942, puts the home folks only one jump from zero on wool, except that mohair and wools coarser than 44s have lesser restriction.

THOUGH DYES have been critical for months, the Government has not thought best to take any legal action; there was no price ceiling, no allocation. But in late February, Robert R. Guthrie, assistant chief of the Bureau of Industry Branches of WPB, wired all print cloth manufacturers and converters, advising them that an order would soon require reduction in number of patterns and strength of color. Patterns, he said, would be cut in half; heavy shades would be prohibited; and there would be more white background. Civilians soon will have to accept undyed underwear, sheets, cases, towels, and even drapes. But a textile official told this writer that curtailment of civilian fabric production would tend to alleviate the dye situation in time.

Lessing J. Rosenwald, chief of the Bureau of Industrial Conservation, WPB, reports encouraging response by hosiery manufacturers to his request for reduction from 75 to 4 shades. Mr. Rosenwald said that this riot of shades was a principal cause of color wastage.

In its first comprehensive requisition under war powers, the Inventory and Requisition section of WPB wired 146 processors to arrange within 48 hours for the sale of all their raw silk holdings to the Defense Supplies Corp. This action was accompanied by a threat of seizure upon non-compliance, and it is the forerunner of other requisitions of scarce materials in the textile and other fields.

Sheer hosiery seems really headed for the vanishing point. Silk is gone. Nylon is gone. Military demands for rayon are increasing, and the source materials of rayon are not too plentiful. But the allotment of rayon yarn to hosiery has been increased by one-third for March, which will help some. Officials are discussing the advisability of importing fine cotton yarn from England to help alleviate the impending shortage of full-fashioned hosiery.

Mr. Guthrie announced that, as a part of the wool conservation program, rayon producers will make available in March small sample lots of rayon tops to worsted manufacturers, and thus stimulate experiments in the blending of rayon staple with wool in worsteds. Clothiers have agreed to garment style simplification in order to make civilian yardage go further.

The Quartermaster Corps says that its forward buying policy has resulted in an adequate supply of clothing for the Army. Spreading or extending deliveries has made it possible for contractors to plan the use of equipment and labor more efficiently than they could have done at top speed.

Quartermaster has also organized a Textile Planning and Procurement Section, whose function is to advise on the fabrication of textile products, especially duck, with Lt. Col. Robert Stevens as chief, and William E. Russel as technical advisor.

The Textiles Branch of WPB, headed by Frank Walton, has organized subcommittees for the cotton goods industry, to speed the production of duck, osnaburg, twill, sheeting, combed yarn and other critical items.

Bids on 74,000,000 yd. of woolens and worsteds, 10,000,000 O.D. blankets and 10,000,000 pr. wool socks together with other knit goods will be received at Philadelphia QM Depot on Mar. 26.

The Department of Agriculture announced plans to encourage growers to shift from the production of short staple cotton to the longer staple length in 1942, to make available particular types of cotton needed for military needs.

RECENT QM AWARDS—Textile purchases by the Quartermaster Corps during January and the first half of February included $45,000,000 worth of wool fabrics. The woolen awards, made through the Philadelphia Depot, include large commitments on melton over coating, uniform serge, linings, and flannel shirtings with smaller quantities of other constructions.

QM awards are now semi-restricted; you no longer will learn the exact amounts in most cases.

Both Philadelphia and Jeffersonville QM depots awarded many contracts for various types of cotton cloth, including more than 25,000,000 yd. of duck, twill and similar products, and $2,000,000 worth of other cotton cloth.

Duck contract awards totaling $5,700,000 at Jeffersonville QM Depot covered a wide range of widths and constructions with unit prices ranging from 28.17¢ per yd. for 30-inch widths of 10.42 oz. duck in the gray to $1.83 for 72-inch finished No. 6 duck.

Textile awards at the Philadelphia QM Depot: Herringbone twill, 36 in., some water-repellant; poplin and wind-resistant substitutes, various constructions and widths, some from carded yarns, some from combed; dark blue covert cloth, wool; a small quantity of o.d. overcoating manufactured from reprocessed wool; uniform cotton twill of Types II and IV and cotton khaki twill, 6 oz. and Type I wind-resistant.

Army knit goods awards included worsted sweaters, o.d.; wool mufflers, o.d.; wool mufflers, o.d., Federal Specification No. 8-99A; wool caps, M-1941, all domestic wool; nurses wool mufflers, dark blue. Awards were made through the QM Depots at Philadelphia, San Francisco and Seattle.

Contract awards for a wide assortment of types and widths of webbing were announced by the War Department. Through the Jeffersonville QM Depot, contract awards for webbing were spread over a large number of suppliers, for widths from 5/8 to 3¾-in.

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PRICE CEILINGS AND AMENDMENTS BY OPA

THE FOLLOWING DIGESTS of price regulations, affecting textiles and related products, supplement the price ceiling portion of the "Textile War Mannual" published in the February, 1942, issue of TEXTILE WORLD, pages 75 to 78:

Bags, Cloth—Price Schedule No. 55 is amended so that beginning Feb. 16, 1942, second-hand bags may not be sold at prices above the highest prices received by a seller during the period Oct. 1 to 15, 1941.

Bedding—The proper method of computing ceilings under Price Schedule No. 89 is to use as a basis the spot-cotton price of the business day immediately preceding the date of the contract. A 60-day temporary maximum price regulation beginning March 2, is set for bedding equipment. Sisal pads, component part of mattresses and couches, were also placed under a 60-day price ceiling. Both orders control manufacturers' prices only.

Bed Linens — Labelling bed linens which are "seconds" as "second selection" is not sufficient for provisions of Price Schedule No. 89 (Bed Linens). All bed linens sold on or after March 2, must bear the required label. (See "Cotton Bed Sheets, etc.")

Bleaching Powder—Prices have been stabilized for bleaching powder by a series of individual agreements with producers. Maximum prices are set for 1942 deliveries, with the temporary ceilings 25¢ a 100 lb. over 1941 level.

Burlap—Price Schedules Nos. 18 and 55 are amended to prevent misinterpretations or evasions, effective Feb. 7. In cases where re-sewn burlap is made up of more than one construction, the maximum price applicable is that at which the lowest priced component is ceilinged. The amendment to Price Schedule No. 55 makes it clear that any container manufactured from second-hand material is covered by the schedule. Under Amendment No. 1 to Revised Price Schedule No. 18, an increase in maximum prices is established for burlap. Effective March 3, it allows for the increase to maximum prices where additional cost is incurred for higher war risk insurance and ocean freight.

Carded Cotton Yarn—Premiums above established maximum prices for carded cotton yarn may not be collected on the basis of quality differences, according to an amendment to Price Schedule No. 33 (Carded Cotton Yarn) issued Feb. 4. The amendment also contains several features added to Price Schedule No. 7 (Combed Cotton Yarn) and clarifies conditions under which premiums may be collected for special twist and special breaking strength. Premiums based on quality alone are excluded by limiting premiums to those specifically authorized. Under the amendment, tinged and part-waste yarns must sell at the normal trade differential below the ceiling prices. The features in the amendment that correspond to those in the combed yarn schedule include:

1. In the case of direct export sales, producers of carded yarn are limited to a 5% premium. Other direct export sellers are permitted to add to the maximum price an amount equal to the additional cost involved in the particular sale. Sales to a "middleman" for subsequent export sale take the ceiling price without any premium. If export shipments are put up in water-proof packages, a premium of 1¢ per lb. may be collected by any seller.

2. Domestic sales of yarn by others than producers also may command certain differentials. When stock yarn is sold out of warehouse space of persons other than producers, freight may be charged to the buyer. Jobbers, who are defined to include only those persons principally engaged in selling stock yarn rather than in making commission sales, are permitted to charge limited premiums of from 5 to 10%, depending on the size of each sale and the quantity of yarn sold in each month.

3. Sellers of carded yarn are required to give a 2% discount on all yarn sold at maximum prices where payment is made within 30 days after delivery. This conforms to well-established trade practice.

Combed Cotton Yarns—Complete revision was made Feb. 3 of Price Schedule No. 7, Combed Cotton Yarn, to bring under maximum prices mercerized, gassed, and bleached yarns, in addition to yarns in the gray. Also added to the schedule are ceiling prices for commission mercerizing, bleaching, and gassing.

As changed, the schedule contains lists of maximum prices, tied to the market price of spot cotton, for all sizes of combed yarn in the gray. These basic prices are the same as those that became effective on Dec. 24. All reference to yarns of "ordinary commercial quality" is eliminated from the new price provision. Specific premiums are listed for mercerizing, gassing, and bleaching.

Fixed premiums also are established for perforated dye-tube and cross-tied skein put-up; for hard twist in various multiples; and for certain yarns spun to rigid specifications because of their use in Army equipment. Premiums commensurate with additional material and production cost are allowed for other special put-ups.

Memorandum contracts made with OPA's approval must now be settled at prices not exceeding those determined by applying the levels set in the amended schedule.

In lieu of the broad exemption covering export sales that has been in the schedule up to now, the revised schedule limits producers of combed yarn to a 5% premium in the case of direct export sales; other direct export sellers are permitted to add to the maximum price an amount equivalent to the additional cost involved in the particular sale. Sales to a "middleman" for subsequent export take the ceiling price without any premium.

An amendment changing the date upon which the new export provisions of Price Schedule No. 7, Combed Cotton Yarns, became effective was issued Feb. 10. It makes clear that the newly-added export provisions do not apply to sales contracts made prior to Feb. 3 or to deliveries against such contracts.

Cotton Bed Sheets, Sheeting, and Pillow Cases—Ceiling prices slightly under current market levels are established for cotton bed sheets, sheeting, and pillow cases in Price Schedule No. 89, "Bed Linens." The schedule sets maximum prices that manufacturers, converters, and finishers may charge for finished cotton bed sheets, including crib sheets, pillow and bolster cases; unbleached sheeting; and bleached sheeting. The schedule does not apply

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to wholesalers, jobbers, or retailers of bed linens, nor are the ceiling prices applicable to wide sheeting "in the gray," or to sheets or sheeting made entirely of combed cotton yarn.

Fine Cotton Goods—Schedule No. 11 amended so that:

1. Filling sateens are removed from Price Schedule No. 11 and will not be under maximum prices for the time being.

2. The definition of "fine cotton goods" in Price Schedule No. 11 is modified so as to exclude goods made wholly of carded yarn. However, the schedule continues to cover fine goods made partly of carded yarn.

3. Premium provisions in Schedules Nos. 11 and 35 are amended by limiting the dobby premium to "weaves requiring dobby loom" and by prohibiting an extra charge for slubs or for fancy draw where the extra charge is made for dobby weave.

4. A new section prevents the "writing up" of contracts to take advantage of upward revisions in the ceiling prices between the time a contract is made and the date of delivery.

5. A new provision is added to Schedule No. 35, requiring that fabrics in the print cloth group shall be subject to ceiling prices even though made of weaves requiring 3 or 4 cams.

6. Requirements as to information which must appear in contracts of sale are modified so as to call for a statement of the cloth or thread count only in the case of gray goods.

7. Several changes are made in Price Schedule No. 35 in connection with the pricing of denims and chambrays and coverts of weights not listed.

8. A provision is made in Schedule No. 35 to the effect that the listed maximum prices for denims apply to all patterns made entirely or in part of white filling yarn.

9. Added to the premiums allowed for goods made to rigid specifications because they are for Army equipment is a ½¢ per yd. allowance for sheeting made for use in the manufacture of Army raincoats.

Kapok—Specific maximum prices for kapok, used in life-jackets, sleeping bags, and other articles are established in an amendment to Schedule No. 59 issued Feb. 3.

Hosiery, Rayon—Increasing prices of women's rayon hosiery brought from OPA a warning that this office is developing a ceiling on such hosiery and that wholesalers and retailers buying hosiery at prices out of line with recent markets may suffer a merchandising loss when the order is issued.

Nylon Hosiery — Manufacturers' maximum prices were set Feb. 10 by amendment to Price Schedule No. 95. Temporary maximum prices for Nylon hosiery had been imposed Feb. 5 by a schedule which limited manufacturers', wholesalers', and jobbers' prices to the highest prices charged during the period Oct. 1 to 15. The amendment converts this temporary ceiling into actual maximum prices, using the Oct. 1 to 15 market prices as a guide. Retail sales of Nylon hose are excluded from the ceiling order. Attention is called to the "evasion" section of the schedule which makes it clear that the practice of requiring a buyer, as a condition of purchase of Nylon hosiery, to take other hosiery or merchandise, is prohibited.

Poplin—A regrouping of the poplin classifications in Price Schedule No. 35, Carded Gray and Colored Yarn Cotton Goods, was announced Feb. 10. The amendment broadens the range of poplins covered so that all carded fabrics of that type are now subject to ceiling prices. The grouping is made on the basis of warp-yarn numbers and of warp count, with subgroups for different square-yard weights.

Pulled Wool—Specific maximum prices for domestic pulled wool are established in amendment No. 5 issued Jan. 30 to Price Schedule No. 58, Wool and Wool Tops and Yarns. The amendment is linked to large-scale Army buying of woolen goods and makes it easier for woolen goods manufacturers to purchase pulled wool needed to fill Army cloth contracts. Prices shall not exceed those obtained during the period Oct. 1 to Dec. 6, 1941.

Rayon Gray Goods—All types of rayon gray goods not already covered are brought under maximum prices by amendment to Price Schedule No. 23, issued Feb. 10. According to the amendment, the ceiling price for any construction of rayon gray goods not now listed in the schedule shall be a price "in line with" the established maximum price for the nearest related construction. The term "in line with" means "having a justifiable relation to such maximum price with commensurate increases or decreases to give effect to the differences in costs of the yarn used and in weaving costs, taking into account changes in (1) the number of picks, (2) the number of ends, (3) the width, and (4) the weave." The amendment is a temporary measure and will be superseded in the future by a further amendment that will set maximum prices.

Rayon Waste—Price ceiling No. 90, effective Feb. 3, places rayon waste and rayon tops and noils under ceiling prices ranging from 15 to 24¢ per lb., net f.o.b. shipping point, for 28 grades of producers' waste when sold by manufacturers of continuous filament yarns or staple fibers. These prices may be increased by 6% when sales are made by others than producers. Rayon tops are given maximum prices ranging from 40 to 44¢ per lb., net weight basis, f.o.b. shipping point.

Silk, Raw—Because substantially all raw silk stocks in this country have been acquired by the U.S. Government or are in hands of manufacturers on Government contracts, OPA has revoked Silk Price Schedule No. 14 and its amendments.

Sisal, Manila and Henequin—Where a manufacturer uses an alternate material because he cannot secure sisal and similar fibers, and such alternates cost more, he may add the amount of the increase to the price of the finished product, but in no case shall this increase exceed $1.30 on an inner-spring mattress.

Wool, Shorn, Domestic — Maximum price regulation No. 106 effective Feb. 28, 1942, establishes maximum prices for grease wool sold on a clean basis. The ceiling established is on the basis of 37.1¢ per lb. for grease wool, which is the average farm price prevailing on Dec. 15, 1941. The latter is the highest of four prices which, under the Emergency Price Control Act, the Administrator must use in setting maximums for agricultural commodities. These four prices are 110% of parity; the market price on Oct. 1, 1941; the market price on Dec. 15, 1941; or the average price during the period July 1, 1919 to June 30, 1929.

The ceiling on wool on a clean basis is $1.18 per lb. for fine 64s, 2½ inches and longer, which, as is the case for other grades, generally reflects the Boston market price on Dec. 15, 1941.

The new regulation supersedes Price Schedule No. 58 in so far as it covered domestic shorn wool. The old schedule was a "freeze" type, using as its base period Oct. 1 to Dec. 15, 1941.

A brokerage commission of not more than 1% of the applicable maximum price is provided for. This, of course, does not apply to wool handled on consignment.

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PRIORITIES AND ALLOCATIONS—AMENDMENTS BY WPB

Priority Assistance—Users of Form PD-1A, were warned that applications cannot be considered unless they are properly signed at the bottom of the first page of the copy marked "Duplicate" on the back of the sheet. Some confusion had arisen because the General Instructions which accompany the form instruct applicants to "execute the certification on the duplicate copy."

The date on which PD-1A and PD-3A forms must be used in place of forms PD-1, PD-3, PD-4 and PD-5 has been postponed from March 2 to March 15 by Amendment No. 1 of Priorities Regulation No. 3. Other changes in Priorities Regulation No. 3 are as follows:

The Selective Service System has been added to the list of agencies by which PD-3A's will be issued. In conformity with procedure already established, the use of PD-3A certificates by the Procurement Division of the Treasury and by the Surplus Marketing Division of the Department of Agriculture has been specifically confined to Lend-Lease contracts. PD-1A certificates may also be used to rate purchases under Lend-Lease contracts or purchases by or for the account of foreign Governments.

An addition to paragraph (a) provides that after March 15 preference ratings which have been assigned prior to that date on PD-3, PD-4 and PD-5 certificates must be extended in conformity with the provisions applicable to PD-3A.

A new paragraph, (e) (4), provides that any person on whom an order bearing an AA rating has been served may extend it only as A-1-a if he is able to fill the order from his own inventory. This paragraph prevents the extension of emergency ratings where no emergency exists.

Another new paragraph, (e) (5) provides that the extension of preference ratings assigned by PD-3A certificates may be subjected to such further provisions as may be prescribed by supply arms or bureaus of the Army and Navy, with the approval of the Army and Navy Munitions Board and the Director of Industry Operations.

Agave Twine—The quota for March is 70%, and 65% for every month thereafter, of the average monthly sales in 1941.

Burlap—WPB amended the burlap order (M-47) to make available additional supplies of burlap bags for crops. The original order made available to wool growers only 2,500,000 yd. for bags, as against estimated needs of 5,000,000 yds. The amendment will permit the moving of these crops.

Carpets and Rugs—Cross section of the carpet and rug industry met in Washington Feb. 26, to discuss conversion of large part of industry's capacity to the manufacture of military and essential civilian goods. R. R. Guthrie, assistant chief of the Bureau of Industry Branches, advised the manufacturers that jute is becoming even scarcer than wool.

Chlorine—In an amendment to Order M-19, beginning March 1, use of chlorine in textile bleaching is restricted to 50% of the amount used for the year ending June 30, 1941.

Chlorinated Rubber—All stocks in the United States, except those going into a specified uses, ordered frozen Feb. 23, preparatory to requisitioning by the WPB or diversion into war production. An amendment to General Preference Order M-46 provides that chlorinated rubber may be used only for flame proofing military fabrics and other non-textile purposes.

Cotton Duck—WPB notified cotton duck manufacturers that previous telegraphic instructions, stating an order to be issued will cancel all contracts for cotton duck except those rated A-1-j or better as of March 1, 1942, are to be modified by an order about to be issued. Mills are asked to take no action cancelling contracts until after careful examination of the terms of the order.

Cotton Seed—WPB issued an order (M-92) prohibiting oil mills or cotton gins in Texas, Arizona and New Mexico from selling or using any SXP cotton seed until Department of Agriculture has inspected the seed to ascertain whether it is suitable or unfit for planting.

Dyes—R. R. Guthrie, Chief of the Textile, Clothing, and Leather Goods Branch, Feb. 25, wired printers and converters as follows: "Supplementing my telegram to the textile printing industries on Feb. 20, (Advising that WPB will order reduction in number of patterns and strength of color) we propose also to recommend that no new discharge patterns be accepted with discharge peg coverage of more than 35%. There shall be no more than four color combinations. Lines are to be cut to not over 50% of last season's. Telegram is for your information so that you may govern your activities accordingly."

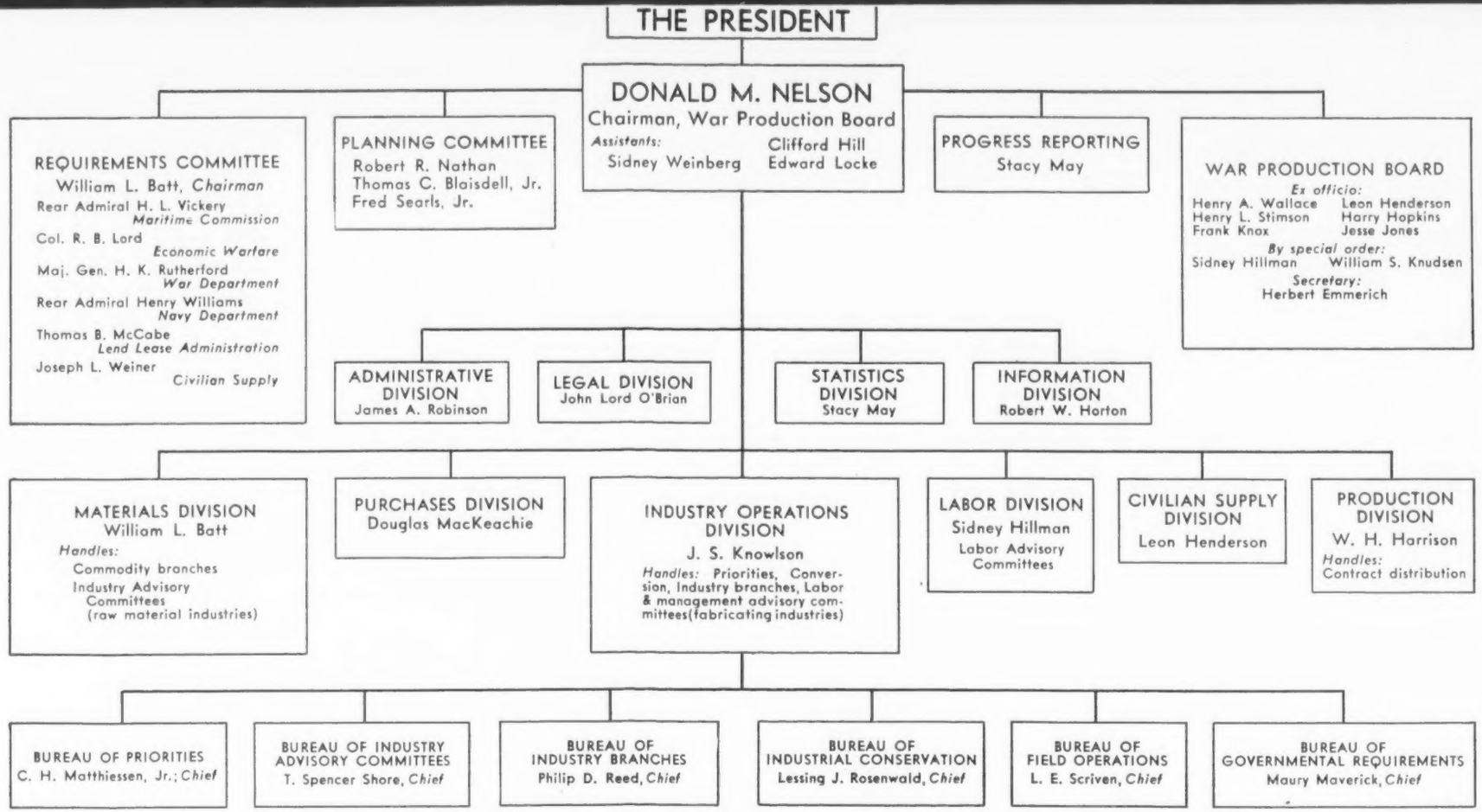
Jute—Order M-70, effective Feb. 28, prohibits the use or sale of any raw jute except to fill defense orders. Imports of jute will be allocated among processors and importers on the basis of the amount of jute received during 1939, 1940, 1941.

Manila Fiber—General Preference Order M-36 and two amendments, previously issued, restricted delivery of Manila fiber to the Navy, the Defense Supplies Corporation, and limited processors. Processing of the fiber and sale and delivery of Manila cordage were also restricted to military and essential civilian uses. Amendment No. 3, effective Feb. 20, permits process and sale every month approximately 70% of the average number of pounds per month of Manila cordage sold during 1939.

Rayon Yarn—During March only, producers of rayon yarn are ordered to set aside the output of 12% of their viscose and cuprammonium spinning spindles and 6% of acetate spinning spindles after defense use, instead of the present 9% and 5% figures under Order M-37-a, and M-37-a is being formally amended accordingly. This change is ordered to make possible a replacement of 1 lb. of equivalent 100 denier rayon for each pound of eligible raw silk poundage, instead of the present ¾ lb. of rayon to 1 lb. of silk. In turn, this means that Form PD-113, Item C equals Item B for the month of March. You are hereby ordered to deem each PD-113 Form filed to be amended accordingly. This revision leaves you free to proceed with March bookings.

An order is about to be issued making available to hosiery and weaving industries larger quantities of rayon than now received under General Preference Order M-37-a, amended. The percentage of viscose and cuprammonium set aside is increased from 12% to 17%, and acetate remains at 6%. WPB directs that producers make available to worsted manufacturers 600,000 lb. of 5½ denier viscose staple fiber during March, and 1,200,000 lb. in April, for blending with wool, in worsted yarns and fabrics.

(*Continued on page* 136)



WAR PRODUCTION BOARD ORGANIZATION CHART

THE HIGH COMMAND of war production and economy, after several reorganizations, now is delegated, by the President, to two main agencies: the War Production Board, and the Office of Price Administration. The above chart, prepared by TEXTILE WORLD's Washington office, shows you how WPB works. First thing you notice is that the President heads it, and next to him is Donald Nelson, chairman of the Board. But to correct any misunderstanding you may have, notice that WPB itself is over in the upper right hand corner—off the main stem, you might say. That is where it actually is. Notice the names on the Board. Nearly all of them are ex-officio. The President's order gives almost absolute authority to the *chairman*, not to the Board. Nelson *does* ask the Board members, and a lot of other people, for their opinions, but he doesn't have to. This top war production authority is mis-named; when you think or say "WPB," you can change it to Nelson and be perfectly right. All of the ten Divisions, across the middle of the chart, report to Nelson. The names of these Divisions tell pretty clearly what they do. Keystone of all is Industry Operations Division, in the center. It is the one that controls your priorities; tells you, if it wants to, to convert your plant to some other production; tells you how to conserve materials, and how to salvage them. It does all of the things indicated in the names of the six bureaus at the bottom. Requirements Committee, upper left, constantly studies the need for war gear, tries to balance those needs as to urgency, and reports to Nelson.

The Planning Committee named is a group of "thinkers," as Nelson called them; they try to peer into the future and make sure that no vital need is being forgotten. Progress Reporting, under the statistical wizard, Stacy May, can lay a report on Nelson's desk any day, telling exactly how many yards of duck (for example) are wanted this year and next, how much has been delivered, what is the schedule on the rest.

Textiles Will Be "Converted" Too

And it means just as much to textile men as to the automobile industry

By DOUGLAS G. WOOLF

MR. TEXTILE MANUFACTURER, you are going to be converted. Not precisely in the sense of the "old-time religion," but there will be something of that fervor in it too, before this man's war is over. So, like it or not—and you might as well like it—you should get accustomed to the meaning of this new term—or rather the new meaning of an old term—"conversion." It has taken Washington by storm, and soon it will have the rest of the country by its ears.

To too many industrialists, it is still an isolated term. It means something that somebody else will have to do. Particularly, it means the change-over of the automobile industry to an aircraft industry. Such localization of its meaning is understandable: first, because there are several hundreds of thousands of automobile workers immediately involved, and, second, because aircraft production is our No. 1 urgency.

But here's the important point: To a textile manufacturer the conversion of one of his plants means exactly as much as the conversion of an automobile factory means to the automotive company concerned. And it means equally as much, in due proportion, in terms of our war effort and our civilian economy.

Conversion will affect both the textile manufacturer and the textile machinery manufacturer. Taking the latter effect first—because it is the simpler one—it is obvious that every textile machinery company will be called upon to convert its plant as completely as feasible to the production of machines or parts directly essential to the war program. WPB has already announced that by the middle of this year 40 to 50% of the capacity of the textile machinery industry will be on ordnance work.

The hard cold fact to be remembered in this connection is that new textile machinery, whether for expansion or replacement purposes, will be increasingly difficult to obtain. In fact, it is already a certainty that no new machines will be available except those necessary to break the relatively few bottle-necks in textile war production.

The question of a state of balance as among the machinery in the various departments of a mill is of particular importance these days, when maximum production of certain goods for war use is so urgently needed. For example, there are undoubtedly mills which could go on a 168-hr. week if it were not for insufficient equipment in their carding rooms. Obviously the only way to break that bottle-neck, if we are to go all-out, would be for preference to be given to cards needed by mills whose production is of particularly vital importance.

TEXTILE CONVERSION, proper, presents a much more complicated problem than does that of the machinery manufacturing industry. There looms the possibility that a considerable portion of textile machinery in place will be all dressed up, with no place to go. The primary cause of this difficulty at first will be shortage of materials. Branches of our industry have already felt this. The full-fashioned hosiery industry was No. 1 guinea pig in this war as regards the effect of shortages. The new and more stringent wool allocation order for the second quarter of 1942 speaks for itself. Nylon may very well eventually be a 100% draftee. Despite apparent abundance of cotton as a raw material, the growing demands of the Government for both combed and carded yarn will make it more and more difficult for weavers and knitters of non-essential goods to obtain such yarn. The situation in this respect will become steadily worse; in fact it probably will not improve to any extent until the war is over.

Another factor will intervene as time goes on: increased taxes, more and more investment in war bonds (eventually of an enforced nature, it is to be hoped) and decreased purchasing power as employees in non-essential industries are thrown out of work, will reduce the potential market for a great many goods still being made, even if they could continue to be produced.

Thus, there is added to the natural No. 1 impulse of every textile manufacturer—to go all-out toward the winning of this war—another impulse: namely, to try to find new work for his machines to do and consequently new employment for workers facing dislocation. There has been a trend in that direction but still a very small one. Some carpet mills have swung to duck manufacture and blanket production; that is the most discussed example of textile "conversion." It is only the beginning. There would be much more, if there were a clearer idea, technically, as to just what products the various types of equipment could be converted to. In this respect, we are referring to looms because, as previously noted, there is no difficulty in finding a market for the product of spinning frames.

What is needed is the development of a master chart listing all the various makes and models of looms, the products which they have been making, and the products, particularly of a war nature, to which they could be transferred.

In addition to this basic problem there are a great many others involving technique in change-over. A quick research job is needed here and one in which all agencies in the industry should cooperate in doing. As a starting point, we would suggest that the Textile Research Institute organize its resources and its contacts with other associations to set a basic framework for this job.

Incidentally, in this writer's opinion, this situation again reveals the need of a coordinating force such as the Textile War Council which he has recommended and will continue to recommend.

FINALLY, the whole business of conversion of the textile industry should be approached as a job to be done, rather than as something to shy away from as long as possible. If it is faced in the latter spirit, the mortality to both the war effort and the economic situation will be very, very serious. That was the sort of "wait and see" attitude which led to the fall of France. Textile conversion should be faced now, not as something which may happen, but as an opportunity which should be grasped immediately, and planned consciously and definitely, and put into operation as quickly as possible in as many different plants as possible.

Effective conversion can not only win this war for us but it can preserve our economic soundness. It is up to the textile industry to do its part in this great movement.

Manufacturing Army Overcoatings

How to avoid QM rejections for shade, shives, burrs, and uneven finishing

By FRED SYKES

CONSIDERABLE DIFFICULTY has been experienced by many mill men in producing the 32-oz. olive-drab Army overcoating fabric, and the Quartermaster Depot is rejecting pieces for shade, shives, burrs, uneven finish, and other causes. Most of these defects are blamed on the finishing department. However, manufacturers know the old saying, "You cannot make a piece of goods in the finishing room." This saying is applicable in this instance. True, fabrics can be helped considerably in finishing by the skill and manipulation of a good finisher, but if the cloth he receives from the weave shed is not correct in the first place, the finisher will never be able to turn out satisfactory work. There are many factors over which the finisher has no control. It is the purpose of this article to outline some of these, and to make suggestions which it is hoped will be helpful in cutting down rejects.

In the first place, it is a good thing to remember that the best way to save time and money is to stop production as soon as anything goes wrong, and trace the trouble back, step by step, before resuming production. There is no earthly use finishing pieces that are not right.

The Army specifications for this overcoating call for 35% reworked wool, 55% wool of 44s grade or finer, and 10% wool of 58s grade or finer. The 35% of reworked or reprocessed wool is made out of natural or dyed rags. The 55% of 44s or finer wool is either gray or white wool. The 10% 58s should be white.

There are two methods of starting the fabric through the mill. The first is by using carbonized stock; the second involves carbonizing in the piece. Use of carbonized stock is usually most successful as it permits greater control of shade. As to carbonizing in the piece, it is believed that few mills can properly control the shade, as the human element is involved more than in the first method.

For purposes of discussion, we will consider the first method, assuming that the shoddy is carbonized and free from silk or acetate. The wet method of carbonization is preferred, as it removes the acetate. Acetate should not be left in rags, as it will not dye with wool colors, and therefore will result in specks.

Photo by U. S. Army Signal Corps

Overcoatings must meet stringent specifications

In selecting wools, many mills use a percentage of gray wool—55% of 44s or better. Here one of the worst mistakes can be made: starting out with one type of gray wool and finding later that it cannot be duplicated. There is probably no dyer who can match the same shade on a near white wool as on a gray wool. His supervisor may say to the boss dyer, "Oh, knock it down with some black." But this does not work, as the change is likely to show up in the finishing, and throw the shade off, especially on carbonized pieces.

The 10% of 58s wool can likewise cause more trouble than most people realize. In the writer's opinion, it is safest to use a pulled wool, as this will card out better and not speck. However, it is so much finer than the body of the cloth that it will full to the surface every time, and will cause more off shade than anything else, if this wool is used indiscriminately.

To sum up on the subject of wools to use in the blend: before starting to produce this fabric, decide on a policy of a given amount of yardage, purchase the wool for each shade, and keep it for the entire yardage for which you have stock. A lot of trouble will be obviated in this manner.

Incidentally, when carbonizing is to be done in the piece, be sure to burr-pick the wool. Otherwise large burrs may break up in picking and carding, and it takes a very strong acid to penetrate them. The writer has come in contact with piece goods that were rejected for burrs, and when traced back,

it was found that omission of burr picking was the cause.

In picking be sure and lay the lot down in as large batches as possible. Furthermore, it is practically impossible to have too many layers; the more the better. If possible, pick a large warp lot and keep it for warp, and then pick a large filling lot. It is advisable not to put up warp and filling in one batch, because this method does not permit as close control of shade as is desired.

When the stock is on the car, before starting any lot be sure and get enough roving to take to the dyehouse, and match the original pad. Do not start the card until the shade has been passed and checked.

If a woolen mill has all 60x60 in. cards with tape condensers, operation will be easier than in the case of mills having several different sizes of cards. Mills in the latter position will find it advisable to keep warp on one type and filling on another, if possible. Also it is preferable to have filling on tape condensers, rather than ring doffers, whenever possible.

Little trouble should be experienced in spinning, if processing has been satisfactory up to this point.

In dressing, keep warp lots separate. If a little yarn is left over from a warp, run it in end and end, even if it means making a very small warp. Be sure to have the boss dresser mark every lot on the warp ticket.

AUTOMATIC LOOMS are used for weaving most of this cloth. This means that picking, carding, and spinning have to be first quality, if good weaving is to result. A few things to watch: Keep lots separate, and do not change lots except at the end of a cut. If filling is being rewound, see that the tension on all bobbins is the same. If it comes direct from the mule, try to restrict the production of each mule to a certain number of looms. On no occasion run mule-spun bobbins with rewound bobbins, as this will cause bars and uneven fulling.

If cloth is needed, for illustration, 7x4, and a shortage of reeds develops, buy more. Do not run some looms with a different size of reed and different number of ends per dent. Although the cloth may be the same width from the loom, uneven finishing is certain to result in one piece having a different cover than another, even if they are fulled in the same mill, and that means a different shade.

Be sure and keep cloth lots separate; this will help the finisher to control shade better after pieces are burled and sewn. A good idea is to have an inter-department where pieces can be sorted out for the boss finisher; that is, put the same lot numbers in piles for length, weight, and width. The boss finisher should insist that pieces come from the looms as nearly as possible the same length, weight, and width; he then has something to work with. Also, it is wise to have the same operative sew in all fulling strings. It is surprising how much variation there can be in different individual's conception of measurements.

The pieces are now ready for fulling. Different methods of soaping are used in different mills. Whichever way is used, most finishers prefer a soap with a heavy body. In a soaping machine, do not let the soap get too low, as this may result in pieces shaded end to end, or in variations in fulling. Try to keep pieces of the same length in the same mills. Pieces should be fulled anywhere from 3½ to 5 hr., depending on the width they are laid out in the loom. If pieces come from the loom 73 to 74 in. wide, and shrinkage in length is held to 8 to 10%, it will be found both width and length come up in about the same length of time.

It should be remembered that some fulling mills full faster than others, even of the same make. Do not have fulling mills in a cold and/or drafty place, as these will generate less heat than others. Both these things are likely to result in variations in cover and color. In other words, study fulling conditions—follow the picture through to the finished perch. Careful watch of details will save much trouble.

Watch every new lot to see whether pieces are bleeding a little more or less than the last lot, and whether there is any variation in width or length. If uneven fulling in the width is noted, it should be reported at once.

There is no use of trying to lay down hard-and-fast laws on what weight of soap to use, as conditions vary in every plant. If one has high-speed fulling mills that take from six to twelve pieces at a time, and all stainless steel stuffing boxes, one will not get the same results as on older mills that take only one piece on a side and have wooden stuffing boxes.

After fulling, the pieces should be given a good scouring. There is no reason why it should be difficult to get them clean if water conditions are right and the mill is using a good wool oil that washes out easily. Poor wool oil, on the other hand, can cause considerable trouble. Sometimes it retards fulling and practically never washes out After washing, extract, dry, and finish in the regular way.

Little trouble should be experienced in pieces passing inspection if all these suggestions have been followed. Careful watching of every detail throughout the mill is the price of producing quality cloth. And all mill men should realize it is no disgrace to ask one's associates for help or advice when difficulty is encountered in producing quality fabrics.

Photo by Harold M. Lambert

Don't start the card until the shade has been checked and passed

Finishing Army Overcoatings

How to prevent wrinkles, threadiness, and other frequently encountered defects

By DAVID WELSH

THE FULLING OPERATION is frequently the bottleneck to production in the grand rush to fulfill Government contracts for 32-oz. Army overcoating. It is generally considered that the word "rush" is out when it comes to fulling; that any attempt to rush results in an inferior finish and faults which will be costly to the mill. Lack of felt, giving a thready appearance is one of the faults attributed to attempts to rush the fulling operation. Another fault is wrinkles that are difficult to eradicate. As a matter of fact, slow felting or fulling is the main reason for most of these faults. Fast felting uncorks the bottleneck and results in better finish.

Improper saponification or emulsification is usually the underlying cause of poor felt. Today there are many different combinations of oils used in the picker house to lubricate the stock through the carding, spinning, and weaving operations. Unless the finisher hits on the correct combination of soap and alkali in making up the fulling compound, he is in for trouble. Falling flocks gathering in the bottom of the fulling mill tell the sad tale; felting is delayed; a spongy handle is sure to result; the loss of stock calls for more shrinkage than would otherwise be required, and valuable time is wasted.

When the fulling solution turns to a watery mess in the mill, proper saponification or emulsification is lacking. If mineral oil is the main ingredient in the emulsion, there is a likelihood that the soap in the fulling mill will turn watery, instead of creaming up and showing real life, as it would if saponification were beginning. When this happens, the general tendency among finishers is to put more alkali in the next batch of soap. As mineral oil is not saponified by alkali, this practice does no good. What is needed is a combination that will produce emulsification. An increase of soap and a decided decrease in the amount of alkali will generally accomplish the desired result. The main objection to this method is the apparent added cost, but a trial will convince the most skeptical that a genuine economy is being introduced.

When a good, strong soap solution is applied in the fulling mill, emulsification takes place, fulling is speeded up, a better felt is obtained, and there is decided decrease in dead loss of wool. Wool, of course, costs much more than soap, and the saving in wool will in most instances offset the additional cost for soap. In many plants, the attempt to save on soap has resulted in a poor finish. "It's the finish that counts" is a much-quoted slogan; and soap is important in obtaining a good finish.

It is of paramount importance to get the proper combination of soap and alkali, plus solvent. If the soap begins to show up creamy after a 20-min. run (as indicated by the usual twist of a piece of the goods or the thumbnail method), all will go well. There was a time when picker house emulsions were made up mainly of animal or vegetable oils. Then a general formula for fulling woolens was about 8 oz. of soap and 4 oz. of alkali per gal. Nine times out of ten this formula would accomplish all that was expected.

Today the finisher has to contend

Photo by U. S. Army

A good finish on Army overcoatings is necessary to avoid rejections

Photo by Harold M. Lambert

Don't crowd the mill when fulling Army overcoatings

with various picker house emulsions. He is not always informed of changes made in the emulsions. Therefore, he is compelled to resort to the trial-and-error method of arriving at a suitable formula for the goods to be processed. He most likely has been doing good work with the 8 and 4 formula, when all of a sudden, something happens. Perhaps the soap turns to dirty water in the fulling mill. This is almost a sure indication that mineral oil has been put on the stock. When this happens, a quick change is necessary. If straight mineral oil has been employed, a jump from an 8-oz. soap to 12 oz. is imperative. Sometimes this will fill the bill without benefit of alkali. If alkali is necessary, no more than 2 oz. to the gallon should be used; this amount—or sometimes only 1 oz.—will suffice to take care of any natural grease left in some wools after scouring.

THE LOAD IN THE MILL is another important factor in finishing Army overcoatings. Crowding four pieces of 32-oz. fabric into a standard four-piece fulling mill usually results in a jam. The strain on the belt and pulley tends to slow down the mill, action is retarded, stops are many, dragging out the ends to measure requires the strength of a Samson. Time is wasted, and too much cooling off retards the felting. There is much more waste in discarded flocks. But—most of all—it takes too long for the felting to begin.

For faster fulling, one piece on each side, each piece doubled up, starts the felting in just half the time. The speed of the mill is not retarded; measuring takes half the time; dragging out the seams for measuring is much easier. With four pieces in the mill, fulling will take from 4 to 5 hr.; with two pieces, fulling is usually accomplished in less than 2 hr. Don't make the mistake of running two pieces, one on each side, single. It will take 4 to 5 hr. to full only two pieces if they are run single.

On the large multiple fulling mills —where the usual load on civilian overcoating is six to eight pieces—four pieces, two on a side, each doubled up, will cut the time appreciably.

The recommended heavy soap is a trouble saver. It prevents the formation of wrinkles. It speeds the felting, and thus reduces the dead-loss as much as 3 to 5%. It felts the fibers closely to the face of the goods, producing a well-covered face that stays smooth after long wear. The heavy soap is not wasted, because it retains its life throughout the fulling, and is still potent enough to scour the goods without the addition of extra soap in the washer, or even a second soap.

For scouring, the overcoatings are loaded into the washer, the seams sewed, and the goods run around once to eliminate tangles. After the run around, the washer is stopped, enough cold water added not quite to cover the goods, and the washer started up. A healthy, heavy lather should soon be curling up. A ½-hr. run in this is usually all that is required to bring the pieces out sweet, clean, and crook-free. The goods are then rinsed in cold water for 1 to 1½ hr., and are hydro-extracted or vacuum-extracted. After scutching, they are carbonized.

Most plants today are equipped with a good carbonizing range. The recommended strength for the acid carbonizing bath is approximately 5° Bé. Be sure to use a hydrometer with a Baumé scale (not the Twaddell scale) for checking the strength of the bath. If the shade of the overcoatings is correct, a cold water neutralization for 30 to 45 min. will suffice to rid the goods of the acid. If the shade needs to be slightly modified, this can be accomplished by addition of soda ash or ammonia to the neutralizing bath. A few experiments will reveal the amount needed. For speedy drying of 32-oz overcoatings, a dryer with plenty of capacity is needed. Usually the shade of the goods is not affected by the drying operation.

Careful selection of stock and clips will save a lot of specking. Dark-colored clips with fast colors should be avoided, as in the dyeing they do not lose any of this color; consequently myriad dark specks are the final result. Dark specks stand out more than light specks and have to be removed with specking irons, as it is impossible to cover them by any method.

SHEARS should be kept in first-class condition. As overcoatings are rather difficult to cut, sharp shears are necessary. The rests should be carefully watched by the shear tender for strings or small pieces of flock that might become stuck on the edge of the rest and cause a serious scrape on the face of the goods.

For good cutting, the edge of the blades should be brought to the back of the rest, and tested with thin paper to make sure that both are in complete touch all the way across, to avoid uneven work. When this point has been checked or corrected, the carriage should be lowered two squares, letting the blade and cylinder down to a point where small bunches or knots left in the goods will not get snipped.

Overcoatings require a good, hard pressing. If a conditioner is available, and is placed behind the press, the handle and general appearance of the fabric will be enhanced.

Upkeep of Electrical Equipment

War-time conditions demand extra efforts by textile mill maintenance men

By R. H. ROGERS
Industrial Engineering Dept.
General Electric Co.

NEVER BEFORE has maintenance needed the hearty support and well-planned execution that it now requires. Equipment is carrying heavier loads for longer hours, making for faster deterioration and, on the other hand, leaving less down-time for maintenance operations. The textile industry presents no exception to the rule. This industry, in fact, has certain vulnerable points peculiar to itself which make the care of electric equipment more strenuous and exacting than in many other industries.

Characteristic conditions that are trouble makers for the maintenance crew in enough cases to determine the rule are: heat, humidity, lint, long runs, lack of standby equipment, and little time to service before actual breakdowns.

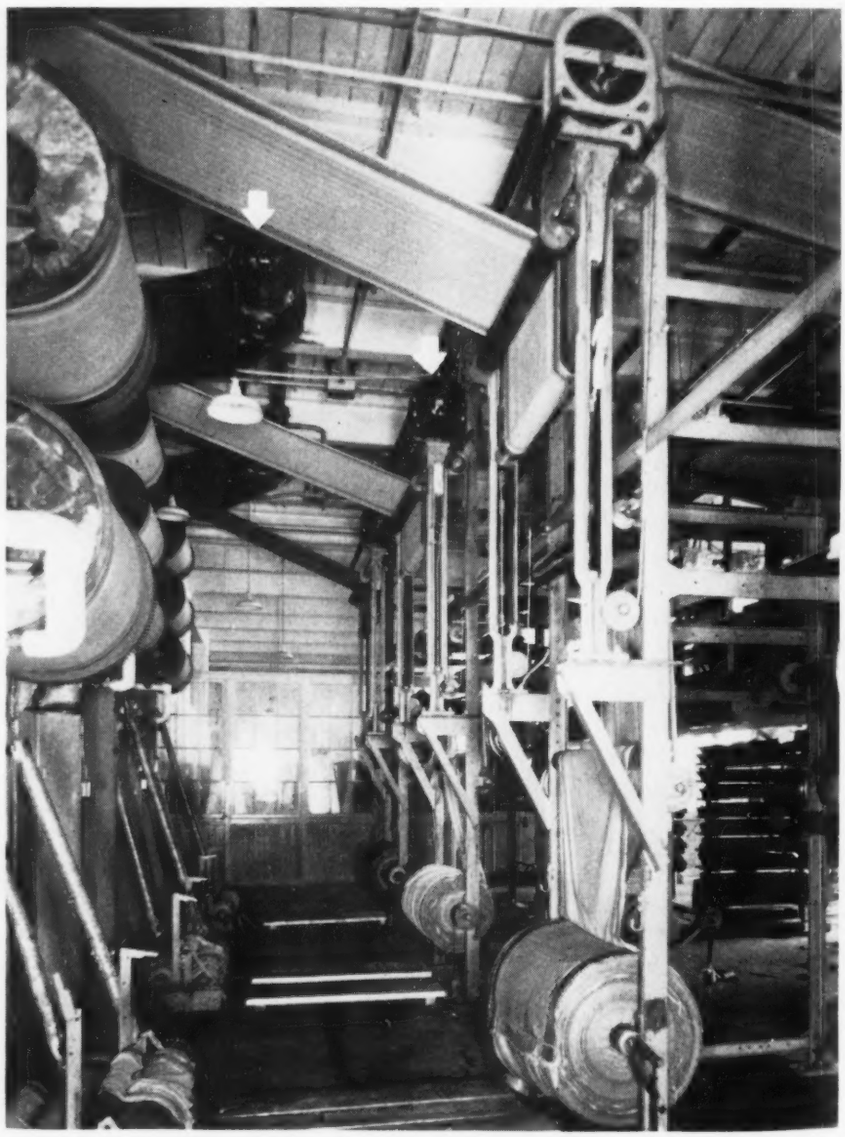
The maintenance of electric, as well as of other equipment, is not just for the good of the equipment itself—its real purpose is to keep up the rate of production and to keep down its cost. There are two ways of carrying on this work: (1) Let each item struggle along until an actual breakdown occurs, fix it up, and get service restored as quickly as possible—this is restorative maintenance. (2) By vigilance in examining and testing to forestall breakdowns and by scheduling overhaul operations so as to cause the least stoppage, a degree of preventive maintenance is attained.

Where a shutdown is actually necessary, a planned stop is much to be preferred to a breakdown with its usual train of dismal results. Preventive maintenance requires long-term planning, hearty support, and an intelligent allocation of costs. Plan 1 may for the time seem the more economical, but Plan 2, especially in the textile industry, is a mark of good management and of good insurance for offsetting deterioration which is as inevitable as time and tide.

"Paper work" in textile industry maintenance can be made of great practical use.

1. It should provide a schedule for routine checkup, minor overhauls, and major operations on all important equipment—a schedule that will take advantage of every needed hour of planned down-time. There should be no breakdown Tuesday on equipment that was idle last Friday.

2. Card records should be kept of every motor and its separable parts as stator and rotor, of all major control equipment and of parts liable to be transferred, of circuit breakers, lightning arresters, transformers, capacitors, and generators. Recurrence of trouble on a piece of equipment should be apparent at once so that a remedy may follow instead of blindly doing over and over the same repair job. An example is afforded by the bearing trouble on a motor with flywheel load where the operator frequently tightened the belt so he could operate the starting compensator quickly. Slacking the belt and educating the operator cured that



Special attention should be given to electrical equipment in out-of-the-way places, such as this difficultly accessible ceiling-mounted equipment

trouble. Without the card record, many bearings could have been used up without attracting curative attention. A record card which provides a good check on individual pieces of equipment is shown in Fig. 1.

3. Manufacturers of electric equipment prepare instruction books, diagrams, catalogs of renewal parts, and other publications to the end that their products may be properly installed and cared for. All such publications and data should be preserved where they can be consulted by maintenance men. As it is, much of this valuable information is lost or is filed in the "front office" where it is of no practical use.

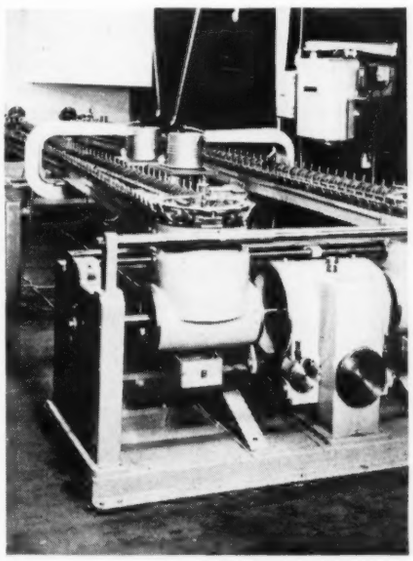
SPARE UNITS AND RENEWAL PARTS. Spare units, as distinguished from renewal parts, are of great value, especially where little time is available for overhauling active items. Under this class would come whole motors; whole control units; subassemblies of control units, switchgear, and the like. Such units and parts allow of careful reconditioning, free from time pressure and are ready to step in where and when vitally needed.

Renewal parts should preferably be of the same make as the originals, as a little money saved here and there on parts may lead to an endless amount of trouble and expense. The maker may not be at fault, because often parts are misfits or are misapplied when the required duty is considered.

Having spare parts in the plant is not enough. They should be checked in and out and should be quickly available. Worn or out-of-order parts should not be stored with new parts until they have been restored to full usefulness. Recommendations of the manufacturers should be the basis of renewal-part buying, shaded more or less by experience in the plant.

A word just now regarding the future crop of renewal parts may not be amiss. It is going to take longer to get them, substitutions may be necessary, and "show cause" may be demanded. The plant, going into this war campaign with bins well stocked with spares, will deal its management and operators fewer headaches than would otherwise be the case.

As for re-insulating supplies, the situation is much the same as for renewal parts. Tapes, fabrics, papers, and insulating varnishes are as essential as parts and should be stocked and issued in the same way.



Modern electronic applications in textile mills call for new and specialized knowledge of circuits and devices if maintenance is to be carried on successfully

MAINTENANCE WORK CARD FOR ONE PIECE OF EQUIPMENT			A B T CO.
EQUIPMENT	10 hp. 1,800 open belted S C motor		MILL NO. 167
LOCATED	On yarn extractor 2d floor b'l'd 6		
DATE	TROUBLE	WORK DONE	BY
3/13/41	Air gap thin on pull side	Put in new pulley end bearing	J.B.
5/21/41	Same thing	New bearing again, slacked belt, put on reduced V starter	J.B.

Fig. 1. Form for keeping record of repairs of individual pieces of equipment

INSTRUMENTS. A few electrical instruments should always be available for checking up on plant and apparatus conditions. They often enable maintenance men to detect approaching troubles in time to save a heavy expense.

A list suggested includes: a speed indicator or counter, a voltmeter, and ammeter, a "hook-on" or tong ammeter, an ohmeter, and a wattmeter or watt-hour meter. There should be some men trained in the use of these instruments and their various combinations for obtaining essential information.

A popular maintenance tool in large textile plants is the portable single-operator arc welding set. Much time and money has been saved by welding broken parts right on the job. The welder will be used on mill machinery, more than on electric equipment, and present and future difficulties in getting quick service on parts will make it more valuable than ever.

GOOD HOUSEKEEPING. Almost anyone having occasion to visit many mills senses good and bad housekeeping among his first impressions which are likely to be lasting. First-class maintenance and poor housekeeping do not go together. Lost or mislaid tools cause expensive delays, as does pawing over a mess of good, bad, and indifferent parts. Oil-soaked floors and ceiling underneath indicate waste and spoilage. Belting and other perishable materials improperly stored and subjected to deteriorating influences are keeping up a steady drain.

Not far from good housekeeping is safety. Carelessness in restoring covers to apparatus recently worked on should not be tolerated; besides leading to more maintenance, accidents may result. Men on maintenance jobs should be guarded by signs on switches, and "Men Working" signs, etc. Safety ladders and scaffolds should be provided, as well as ample portable—and if necessary, emergency — lighting equipment. Men will work faster and better if they are safe and comfortable.

In most plants in the textile industry there are certain critical applications that call for special attention. Among them are drives not directly associated with production; for instance, water-supply pump motors and control usually located away from production equipment and often in cold, damp surroundings. Air compressor drives and the like may not get the same attention as is given to active production units. Another class that should be watched includes motors and control devices, inconveniently located, such as overhead, in hot places, or hidden away in back of or under a complex machine.

(*Continued on next page*)

EMERGENCIES. A carefully worked out routine to take care of emergencies should be the subject of frequent drills. Whether power is purchased or plant-generated, what-to-do should not be left to chance. In case of an arc over, burnout, fire, or should someone be in contact with a live circuit, instant action of the right kind is priceless.

Maintenance men should have some knowledge of electrical fundamentals—how and why things work. Regular short-term classes, or at least some organized book study, is well worthwhile. It might have prevented the following: A synchronous motor, for which there was no load, was allowed to operate as a synchronous condenser to improve the plant power-factor. Shortly after going on this duty the motor lost its field, but naturally continued to operate. The conclusion was it did not need a field. Thereafter for three years it operated as an unloaded induction motor helping to fill the system with lagging reactive kva. It would not have been discovered then but for an outside engineer who was called in to survey the power-factor situation.

Maintenance problems vary somewhat as the industry is considered from the standpoints of spinning and weaving mills, rayon yarn producing plants, and finishing plants.

Spinning and weaving mills use vast numbers of small a-c. motors, entailing schedules of lubrication, cleaning, and bearing renewals. Distribution equipment involves many units to be serviced and kept clean. Control devices are numerous and though small they need regular attention. The products of textile mills are easily depreciated by oil, grease, dirt, and stoppages during a run, and by variables—some of which may be traced to the electric equipment. Lighting equipment in first-class condition is always conducive to quality productions.

Rayon yarn producing plants usually operate continuously, making planned withdrawals of equipment almost imperative. Tens of thousands of small, highly special motors operate under adverse acid conditions—control devices likewise. There are many variable-frequency motor-generator sets and high frequency turbine-generators. Distribution is extensive and finely divided, leading to multiplication of vulnerable spots.

Finishing plants may be characterized by steam, humidity, dripping water, heat, acid, and alkali fumes, and dye vapors. Long runs are the rule, with goods highly sensitive to unplanned speed variations or stoppages. Some plants operate continuously. Finishing plants run largely to direct-current apparatus and to ranges of motor-driven units operating in close speed relationship. Motor-generator sets are common, as well as adjustable-speed a-c. motors. Once an operation is started involving chemical treatment, dyeing, singeing, etc., a stoppage is highly detrimental, calling for special handling, disposition of damaged or spoiled material, and delay in getting back to normal production.

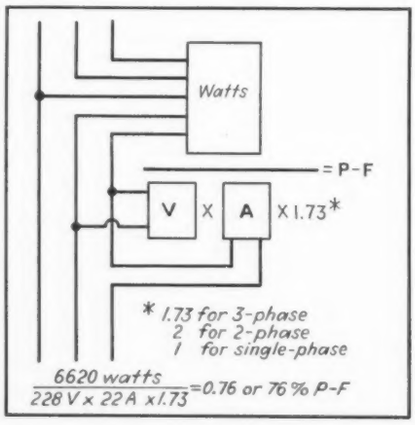


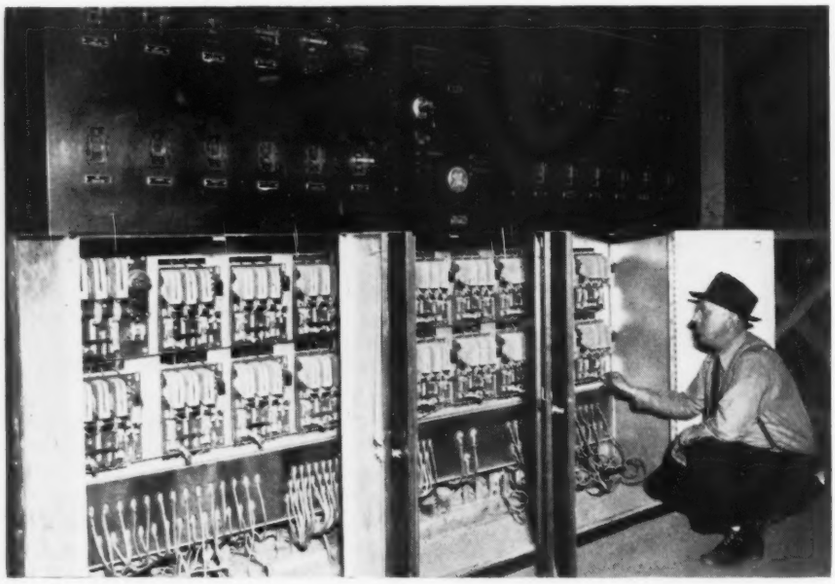
Fig. 2. Diagram formula shows how to check power factor with portable instruments

GENERATING EQUIPMENT. Plant generation of power involves the maintenance of the generators; exciters; and, usually, of motors and control on station auxiliaries. It is of prime importance that all units involved in the production of plant power be kept in the best condition, as the whole plant production may hang on some fairly insignificant item in the power plant. Careful inspection and tests may reveal deterioration in time so that the equipment can be restored without a general shutdown.

Such a program was used to advantage in a mill where two d-c. generators had been carrying a heavy overload for 12 years. There was no immediate evidence of deterioration, but upon checking coil insulation in the slots, it was found non-existant at least in the form in which it was installed. Plans were made to take the generators off the line, one at a time, keeping preferred loads in operation. When the windings were removed, the insulation all fell off in black flakes. Shortly the machines would have burned out, together with entire stoppage of mill and probably a much worse repair job to be done.

POWER FACTOR. High power factor for a plant and for individual feeders is worth a great deal from the maintenance standpoint. Voltage will stay more nearly normal and will be less sensitive to sudden load changes. Motors and control devices will be more certain to operate in the normal manner. High power factor means less current in all current carrying circuits and devices, hence fewer burnouts, less damage to contact surfaces, and longer life for insulation. A diagram formula showing how power factor can be checked with portable instruments is shown in Fig. 2.

(In the second part of this article which will appear in an early issue, Mr. Rogers discusses in detail the maintenance of motors and control equipment.—Editor)



Maintenance men responsible for upkeep of electrical equipment should be able to read diagrams and should have an understanding of basic circuit functions

Why QM Rejects Cotton Fabrics

Most common yarn faults and finishing defects which cause rejection by QM

This is the third article which TEXTILE WORLD has presented on the subject of why QM rejects fabrics, and is the second article on reasons for rejection of cotton fabrics. The previous article on cotton fabrics appeared in the January, 1942, issue; defects in wool fabrics were discussed in the December, 1941, issue. A special article on reasons for rejection of knit fabrics is being prepared for the Special Knitting Issue in April

YARN DEFECTS have been the cause of some rejects at the Philadelphia Quartermaster Depot. For instance, in the case of the herringbone uniform fabric, specifications were broadened some time ago to permit use of carded yarns instead of combed. Neps, due to running cards too fast or otherwise improperly, have given considerable trouble. It is pointed out that at least some of these difficulties could be avoided by double carding. An example of neppy cloth is shown at *1*; this, however, is not the herringbone uniform fabric, but a tent duck. Other causes of neps include improper speed of flats, doffer, and/or lickerin; incorrect setting or condition of lickerin, flats, doffer-to-cylinder, or other card parts; insufficient frequency of stripping.

Uneven yarn size, another reason for rejection, is illustrated in Fig. *2* and Fig. *3*. Fig. *2* shows fabric containing a coarse end, and Fig. *3* a cloth with coarse filling. These defects are due largely to unevenness in carding and/or drawing.

Kinky filling has also caused some QM rejections. Causes include improper yarn conditioning, too much twist, or insufficient shuttle tension.

Use of wrong-twist yarn has likewise been noted. Twill weaves which do not stand out clearly enough have also been bothersome to QM inspectors. To overcome this trouble, QM has recently required that, on twills and herringbone fabrics, warp-yarn twist must be in a direction opposite to that of the twill.

Both warp and filling slubs have been frequent offenders in Army fabrics. Warp slubs are shown above at *4*, and filling slubs at *5*. These are usually due to improper carding, dirty roving or spinning frames, badly pieced up ends in card or spinning room, blowing down overhead with frames running, or failure to keep clearers clean.

Defects occurring during or because of dyeing and finishing also bear a share of the responsibility, although they do not lend themselves well to photographing. Shade bars, it is reported, are becoming quite serious. These are sometimes traceable to oil on filling yarns, which causes the yarns to resist dye. Streaks along selvages, especially on lining twills, have also been cause for rejection, and should be guarded against.

Insufficient mercerization of fabrics such as uniform twills and herringbones has resulted in rejections because the cloth had a dull, flat appearance. Poor singeing has resulted in turning down of pieces because they had fuzzy, nappy faces.

Offshade fabrics have been encountered in some instances. So too have cloths dyed in baths in which the dyestuff was not completely dissolved. Result in the latter case is colored specks in cloth. Pieces shaded side to center and end to end have also been coming in, as have fabrics with dye streaks, holes, stains caused in finishing, streaks due to Sanforizer shoes, etc.

Excessive shrinkage has been noted in some fabrics. It is believed to be traceable to incomplete Sanforizing.

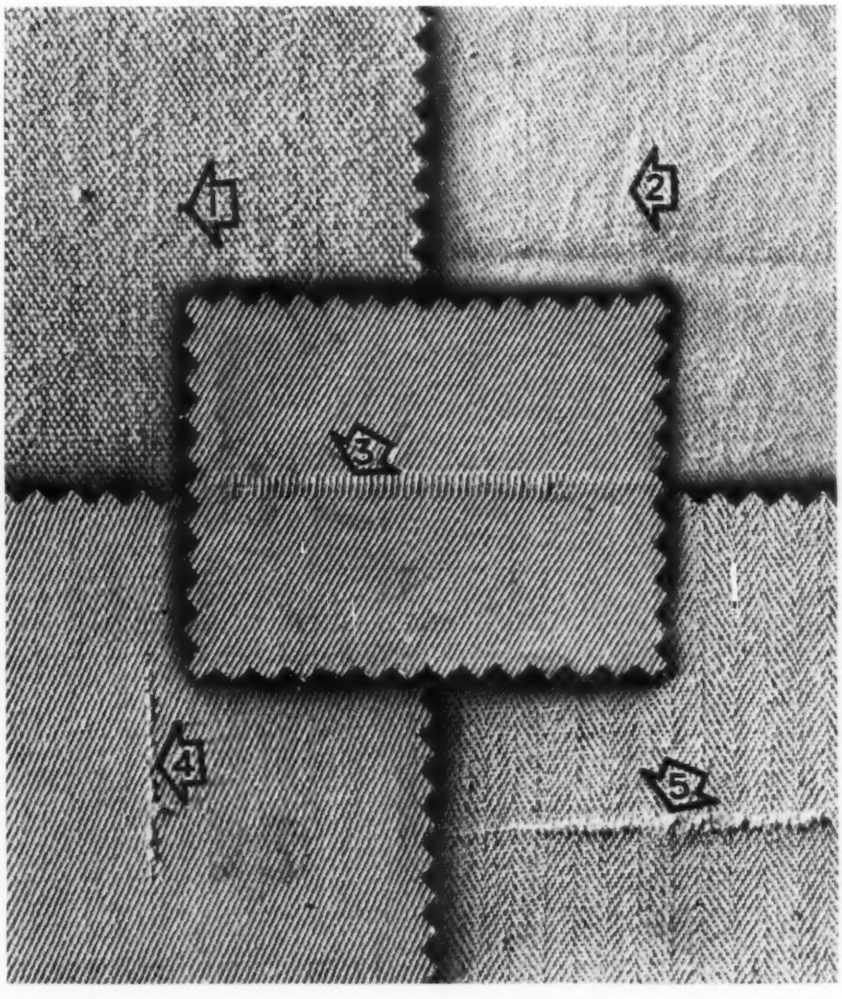


Fig. 1. Neps in tent duck. **Fig. 2.** Coarse end. **Fig. 3.** Coarse filling. **Fig. 4.** Slub in warp. **Fig. 5.** Filling slub

Fabrics For Military Purposes

Two Navy woolens; gray constructions in use by mills making Army cottons

16-OZ. MELTON for sailors' uniforms, covered by Navy Department Specification 27M10b, must be wind-resistant and warm. It also must be of such character that it will present a satisfactory appearance at all times, on ship or ashore, and must give maximum service to the wearer. Enlisted men's trousers, dress jumpers, and blue caps are made from the fabric. Below is an abstract of the requirements as set forth in the specification, plus manufacturing suggestions not included in the specification.

Stock—Stock-dyed 100% fleece wool not lower than 64s grade, of staple length sufficient to meet requirements. [In order to meet requirements, it probably will be necessary to carbonize the stock.]

Color—To be bottomed with alizarine and a chrome mordant, then dyed with indigo to the standard shade; top or speck dying not permitted. Color fastness to light, laundering, crocking, and perspiration shall be equal to that of standard sample.

Yarns—Spun on the woolen system, singles warp and filling. [Although not stated, 4½ run (7.20 typp) warp and filling, with the fabric layout and finishing procedure described below, should yield a satisfactory fabric. Warp should be spun with *S* twist and filling with *Z* twist, which will cause the twist in warp and filling to lie in the same direction as the two yarns cross each other in the cloth, so that in the fulling process the fibers will interlock more readily and form a smoother and better felted face.]

Physical requirements—The finished fabric shall have a minimum width of 55 in. inside selvages, and shrinkage in sponging shall not exceed 3½% in warp or filling. Finished weight of 15½ to 16½ oz. per linear yd. is required; minimum ends and picks, 62x56; minimum breaking strength, 62 lb. warp and 50 lb. filling; elongation shall not be less than 0.60 in. warpwise and 0.80 in. fillingwise; and weave shall be 2 up, 1 down twill to the right. [Although not stated, with the yarns and finishing procedure herein described, the following fabric layout should yield a correct fabric: 3,480 warp ends plus selvages, reeded 4 per dent in a 11½-dent reed, 76 in. reed width, 50 picks per in. at loom.]

Finish—[No finishing requirements are stated in specification, but an examination of the standard sample reveals that a finishing procedure similar to that of ordinary melton should be used. The following is suggested: With selvages tacked together so that face is inside, and using a soap with good body, full slowly and do not allow fabric to become too warm in mill. Have approximately equal shrinkage in both directions. Full to 56 in., wash, and dry at 58 in. Shear lightly on back and give one or two runs on face but do not go down too close as felt is wanted on face. Give a good steam brushing; speck if necessary. Press heavy.]

FLANNEL for sailors' undress shirts is a 11-oz. woolen fabric covered by Navy Department Specification 27F8b. The specification is abstracted below, and certain manufacturing information not in specification is offered.

Stock—Stock-dyed 100% fleece or pulled wool not lower than 60s grade, of sufficient staple to meet requirements. [Although not stated, it probably will be necessary to carbonize the wool.]

Color—To be bottomed with alizarine and a chrome mordant, then dyed with indigo to the standard shade; speck or top dying not permitted; color fastness to light, laundering, and crocking shall be equal to that of standard sample.

Yarns—Spun or woolen system, singles warp and filling. [Although not stated, 5¼ run (8.40 typp) warp and filling yarns, with layout and finishing procedure described herein, should yield a fabric of correct weight.]

Physical requirements — Minimum finished width of 56 in. between selvages, and shrinkage on sponging not to exceed 3½% in warp and 4% in filling. Minimum weight, exclusive of selvages, 11 oz. per linear yd.; minimum thread count 56x48; breaking strength not less than 35 lb. warpwise or fillingwise; and weave shall be 2 up, 2 down twill to the right. [Although not stated, the following layout, in conjunction with yarns and finishing procedure described herein, should yield a proper fabric; 3,200 warp ends plus selvages, 4 ends per dent in 11¼-dent reed, spread 71 in. in reed, 46 picks at loom.]

Finishing — [No finishing requirements are stated, but the following is suggested: Full to 56 in., dry at 58 in., shear and press; finished fabric to be 57 in. wide. The finished pieces should be about loom length.]

GRAY CONSTRUCTIONS OF ARMY FABRICS. In this series, TEXTILE WORLD has included approximate gray constructions for most fabrics covered.

Actual gray constructions of a number of Army cotton fabrics are given below. They are being used by mills making the fabrics, but are not necessarily ideal for all mills which wish to begin production of such fabrics, although divergencies obviously must be slight if fabrics are to be acceptable.

Canvas padding, U. S. Army Specification No. 14-6—36 in., 48x48, 2.85 yd., 13¼s warp, 14¾s filling.

Drill, 7½-*oz.*, U. S. Army Specification No. 6-247—38 in., 72x60, 1.89 yd., 13¼s warp, 15½s filling.

**Poplin*, Quartermaster Corps Tentative Specification P.Q.D. No. 1, Type II—38 in., 102x56, 2.21 yd., 40/2 combed warp, 18/1 combed filling.

**Silesia*, U. S. Army Specification No. 6-18C—39 in., 68x80, 3.50 yd., 30½s warp, 24½s filling.

**Twill, herringbone*, U. S. Army Specification No. 6-261, Amendment 1—40.67 in., 68x48, 1.53 yd., 10s warp, 9½s filling.

**Twill, uniform*, Quartermaster Corps Tentative Specification P.Q.D. No. 33A—Type I, 40 in., 106x56, 1.76 yd., 36/2 combed warp, 24/2 combed filling; Type II, same except 12/1 combed filling; Type III, information unavailable; Type IV, same as I except 18s carded warp, 12s carded filling; Type V, same as I.

(*Previously discussed in this series of articles.)

COTTON BUNTING. Federal Specification CCC-B-791a and Amendment 4. On page 69 of our February issue it was stated that combed yarns are specified for this fabric. However, according to Amendment 4, this fabric is made from "cotton which shall be thoroughly cleaned, well carded, and spun."

THE EDITOR SAYS

Win or Lose: The Answer Is Win!

THIS ISSUE CONTAINS our third special war section since Pearl Harbor. The first, in our January issue, was entitled "War—and Textiles." The second, in our February issue, was the "Textile War Manual." The third, in this issue, could be titled as above.

"Win or lose?" Doesn't that sound strange for an American journal? And yet that is the question that is hanging in the balance today.

For our January issue, we had prepared an editorial headed "Suppose that we may not win this war." We "killed" it because we were afraid it was too alarmist. Since then, most newspapers have picked up that theme.

It is still good, but not so important as it was then. Because at that time, almost nobody seemed to think it was possible for us to lose the war. And today almost everybody seems to think we *will* lose it.

Thus does the pendulum swing: from arrogance to defeatism.

It is at least as inaccurate today to say we can't win the war as it was two months ago to say we couldn't lose it.

What we have gained in the meantime is realism. What we have lost is courage. The gain is temporarily greater than the loss. The loss may eventually eclipse the gain.

Here is the only way in which the new attitude may be capitalized: We must realize, all of us, that America is not invincible just because of her vast resources; that a clever enemy can beat us before we get started. But we must also realize that, if we do get started, we can beat any enemy.

Why haven't we started? Well, we have, but not in an all-out way. We are still playing around with war.

The one *sure* way to get started is to go on a 24-hour day, seven-day week basis, for *all* industries contributing to the war effort. That means giving up a 40-hour week, and adopting a 48-hour week, at the same hourly rate. Eventually we may have to get on a 60-hour week, at the same hourly rate. But let's take first things first.

But labor is not the only group that must go on a 24-hour day, seven-day week, schedule. Management must, also. But management hasn't, any more than labor has. There are still plenty of industrialists who are worrying mainly about profits. There are Government men who are fussing around with red-tape, or thinking up boon-doggling. And there are consumers who are hoarding sugar and tea and tires and currency.

All of these groups seem to forget that this country is in mortal danger; that tomorrow may be too late! And it *may* be. In fact, maybe yesterday was too late.

But while there's life, there's hope. And hope should be interpreted right now, today, in terms of action. Action toward what? Toward the most spectacular all-out offensive that any country has ever launched: an offensive, first on the home production front, and then on every foreign front where a telling blow can be struck at the enemy. In this effort, no group, no class, no bloc can be permitted to impede for a single moment the march to victory.

Words are futile tools. We put them together in an ardent wish to express the need of the hour, only to realize that similar words have been used by campaign speakers and soap-box orators again and again.

The only difference is that today, those words really do mean something. They mean life or death, win or lose.

And to us Americans, the answer *must* be WIN.

Mr. Smith Goes to His Mill

Tom Smith, president of the Smith Textile Mills, arrives at his plant in his car at his usual hour of 8.30. The gates are closed. He waits for the gate-man to appear and to open the gates with a cheerful "Good morning, Sir."

The gates remain closed.

Mr. Smith asks his chauffeur to go into the gate-house and find out what is delaying the gate-man.

The chauffeur does not return.

Mr. Smith finally gets out of his car and walks into the gate-house. There is an ominous calm there. Three officers in strange uniforms are seated. The chauffeur and the gate-man are standing. No one says anything for a moment.

Finally, Mr. Smith breaks the silence: "What's this all about?" he asks in an attempt at his best executive tone, but with a quaver in his voice.

One of the officers gets out of his chair. In guttural English, and with studied politeness, he says: "You will come with me, please."

Mr. Smith, known to some of his friends as the Terrible Tempered Mr. Bangs, feels a surge of blood going to his head. He starts to tell the officer where he can go and in what fashion. The officer waits until he is through, and then says, again, and somewhat less politely: "You will come with me."

Mr. Smith starts to say something, then rubs his hands together in a futile gesture, and then follows the officer.

Through the mill-yard, through the machine-shop, up the stairs, and through the open office. There is a deadly calm there, too. Book-keepers, clerks, stenographers, sit tensely in their chairs, without motion, staring. A dozen officers, all in that strange uniform, leave their posts against the wall and walk down the aisles between the desks. Typewriters click again, with the sinister sound of machine-guns. Clerks busy themselves with papers. Book-keepers run their pencils down the pages of the ledgers. No one stares any more. No one looks up.

Mr. Smith follows his conductor up to the door of his own office. A glance inside reveals another officer at his, Mr. Smith's, desk.

Mr. Smith's conductor points to a desk outside the president's office: a plain desk, with a stool. "You will sit here," Mr. Smith is told. Mr. Smith makes another futile gesture, looks around the office, at the now non-staring clerks, at the officers who have now resumed their stations against the wall, and up at the ceiling—and then sits down at the plain desk, with a stool.

His conductor leaves, apparently to

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return to the gatehouse. Mr. Smith sits there. Eternities pass. He takes off his hat, and puts it on the desk.

Finally, the officer in Mr. Smith's office comes out and stands by Mr. Smith's desk. He just stands there, for minutes. At last, he says, also in guttural English and with studied politeness: "We have taken over your plant. All orders, for your Government and for private customers, are canceled. We shall call on you when we need your knowledge of your plant's operations."

The officer goes back into the presidential office. Mr. Smith sits at his new desk—actually for only an hour, but apparently for centuries.

The officer comes out again and says to Mr. Smith: "You will come with me." Mr. Smith makes another futile gesture, and then goes.

As he passes through the mill, he sees in each department an officer at the overseer's desk, and the overseer standing, gaping. They come to the dyehouse. The officer asks Mr. Smith a question about the source of a certain vat-dye. Mr. Smith replies.

They return to the office.

* * *

It has happened there, in most countries of Europe. It can happen here. It will happen here. Unless we choose to be free.

Washington Is All Cluttered Up

We wrote last month about Washington in war-time. Our description of the bulging National Capital was not an exaggerated one. No one could exaggerate Washington as it is today. There is not that much imagination extant.

The only way this writer could present a true picture of Washington in war-time would be to run a table of all the departments and bureaus and subbureaus and committees concentrated in Washington for the alleged purpose of winning the war. But such a table would take pages and pages, and no one would read it.

So let's get down to fundamentals. Let's try to visualize Washington's main function in the winning of the war. It's just this: Outside of the direction of the war by the War and Navy Departments, and the conduct of international relations by the State Department, there is only one other main war objective in Washington: purchasing the material prescribed in the President's program, and making sure that it is delivered on time.

Instead, what have we got? A maze of bureaucracy fooling around with conservation, salvage, simplification, standardization, conversion, sub-contracting, labor displacement, civilian defense, consumer education, priorities, allocations, civilian supply, anti-inflation, and so on and so forth.

Let's admit at the start that each of these functions has a relation, and in many cases an important relation, to the war effort. But let's also realize that cluttering up the Washington program with all these functions is potentially disastrous. Under ordinary circumstances, it could be excused as democracy at work. In the case of a nation fighting for its life, it can better be described as democracy at play. And Nero played too.

What is the answer?

To this writer, the answer is so simple that he hesitates to suggest it. But he will anyway.

Suppose we ask the War Production Board to do the single job its name implies: get our war production. Suppose we ask it to concentrate on that, and that alone. Suppose we ask it to cut loose all the other agencies which indirectly impinge upon the war program. Suppose we ask it to send those agencies to Philadelphia or Richmond or New York or Chicago or Dallas or Detroit. Suppose we ask it to cut those agencies in half, or in tenths, or what have you, but at any rate to clean them out of Washington.

This would be streamlining the national war effort.

Suppose also we asked the War Production Board, instead of creating myriads of committees in various industries, to call when necessary the executive heads of the trade associations for advice and direction. Illegal? Sure, so is war illegal.

Just let's lay out a possible line of procedure:

1. The Army, Navy and Air Force directed by one supreme head—not the President, or the Secretary of the Navy or of the Army—but one man—let's say a General MacArthur (and the mould wasn't broken when he was born).

2. A War Production Board, which really would get out the production. Naturally this means production not only of war materiel itself but of the essentials going into the manufacture of such materiel.

That would be about all we would need in Washington. All the other fixings could be transferred to the provinces for the duration. McNutt and Madame Perkins and Landis and Jesse Jones and the rest of them could write memoranda to Washington. But Washington, stream-lined, would win the war before it answered them.

Impossible? No. Improbable? Yes. Essential? Yes. What are we waiting for? Bombs over New York or San Francisco?

Do we *have* to wait till then?

France did. Look at France now.

Pull up your socks, America. Streamline Washington.

Enlist the Trade Association!

As we wrote the above head-line, a voice over the radio said: "All America is mobilized for victory!"

No, not all. And among the groups still immobile, is that of the trade associations. Not through any fault of theirs, but because some bright boys in Washington, bolstered up by informal opinions from the Department of Justice, have decided that the anti-trust laws do not permit the enlistment of the most vital force in American business and industry.

The answer is: NUTS!

That alibi has been created by bureaucrats who do not *want* industry to encroach upon the field of administration usurped by self-styled economists.

There is only one way to get industry to go all-out in this war—and that is through the associations.

With that end in view, we suggest these points:

1. Every piece of industrial legislation enacted from now on should carry a clause specifically exempting those business groups who cooperate in such legislation from possible prosecution under the anti-trust laws.

2. WPB and OPA should forget the loose industry-committee set-up, and utilize the association as the spearhead in each industry and each trade.

3. A bureau should be set up to separate the sheep from the goats in the association field. Almost all the trade groups are honest and representative of their constituency. A very small minority is composed of racketeers. The former must be encouraged, the latter exterminated.

4. Trade associations should stop worrying about Atlanta, and go all-out for victory. Their paid executives should spend most of their time in Washington, advising their members as to best opportunities for service, and advising Government as to how that service can be best enlisted from their respective groups.

5. Every company in an industry or a trade should consider it a patriotic duty to be a member of, and subscribe to, its association. A non-member should be branded as a slacker.

Enlist the trade association!

Rayon-Cake Throwing

Adaptation of skein soaking, extracting, and drying processes is difficult problem

By C. W. BENDIGO

TO A RAYON THROWSTER "cake" does not mean a baker's delicacy, but that peculiar package, the product of pot spinning, which has been threatening to change radically the departments of his plant from soaking through winding. Cakes have already started to replace skeins, and it appears to be only a matter of time until skeins are relics of the past.

Initiative in promoting cakes instead of skeins (and also instead of cones, where practicable, such as in filling winding) has been taken by the yarn producers. It is a natural outgrowth of pot spinning, since it saves the operation of skeining or reeling. Also, cakes can be washed immediately after they come from the spinning machines, instead of after skeining as was usually done on the spool-spinning system and sometimes on the pot-spinning system. This minimizes danger of the yarn being damaged by the spinning solutions and eliminates the troubles inherent to wet reeling. Other advantages are obvious to anyone acquainted with the manufacture of rayon, as are certain disadvantages—some of which repeat themselves when considered from the viewpoint of the rayon throwster. Chief incentive to the throwster is a slight reduction in yarn cost per pound, which may eventually be realized, but at present is consumed by additional throwing costs.

Rayon yarn spinners have done much more to adapt cakes to throwing than have the throwsters; and the throwsters are following the producers' procedures with one major exception. That is, the throwsters have attempted to adapt all posible existing equipment to the new packages, whereas the yarn producers generally have designed new machines especially for handling cakes. The work of the rayon companies has been directed toward production of "pretreated cones" which can at once be placed on throwsters' ring twisting machines.

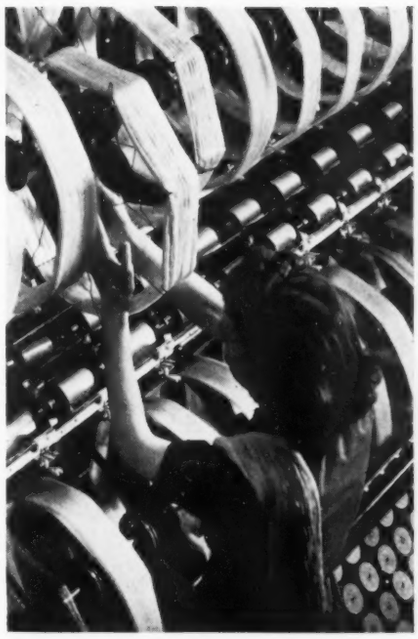
The most vexing difficulties in cake throwings are found in the soaking process, including extracting and drying. First, laced skeins withstand handling much better than do cakes, which are merely wrapped in knitted cotton "socks" and are prone to collapse. Seriously distorted cakes become waste. Second, the soaking materials do not permeate the thick, dense cakes the same as they do willowy skeins which, in general, are half as heavy and have several times more surface exposed.

To overcome these difficulties, the yarn producers employ special soaking machines, whereas in throwing plants the customary soaking tubs are used in conjunction with holders, trays, or baskets, and either the solution is circulated around the cakes or the yarn is agitated in the soaking liquor. Adjustments in formula when replacing skeins with cakes must be made, because of the difference in behavior in the soaking bath and because the yarn generally is different.

It is impossible to keep the cakes from collapsing during the extracting process, if the customary 36-in. basket extractor is used. But distortion can be kept to a minimum by careful and close packing. In some instances special holders and packing arrangements are used. Yarn producers have found individual extractors best, but this equipment is not generally available.

OF EQUAL IMPORTANCE to the soaking procedure is the need for strict uniformity in extracting. Variations in finished fabrics that frequently are blamed on soaking often are due to variations in extracting. This is particularly true with cakes, due to their greater density. With cakes, it is easier to achieve reasonable equilibrium in soaking than to get strict uniformity in extracting when conventional basket extractors are used.

Most throwing plants are stymied by the drying requirements of cakes, which in ordinary hot air dryers at safe temperatures often require ten times longer to dry than do average skeins. No throwster normally has that much excess drying equipment. There is more contrast than comparison between the huge vacuum tanks employed by the yarn plants which dry the cakes uniformly but slowly and the speedy circulating air dryers used for skeins. Just how this drying obstacle will be overcome by throwsters is not apparent, certainly not with their customary machines, temperatures, soaking materials, and air velocities. This limits the amount of cake yarn that can be thrown until dryers for cakes can be obtained.



Displacement of rayon skeins by cakes will bring radical changes in throwing technique

Cake drying is more critical than skein drying. There is more danger of yarn constriction during drying with cakes, which can result in yarn irregularities that remain hidden defects until the fabrics are finished. There is also greater danger of detrimental surface baking and/or damp yarn.

Least troublesome of the initial throwing processes in changing from skeins to cakes is that of winding. Cakes promise to change this operation from a skilled to a semi-skilled task. The yarn producers have been winding from cakes for years and have worked out procedures that are easily transferred to the throwing plant.

Briefly, skein swifts are replaced by four available items: a base, an expander for inside the cake, a cap to hold the running yarn away from the top of the package, and a tension device. There are a great many minor points for the winder tender to learn, but a new employee can be trained in a fraction of the time required for a skein winder.

It appears that the thowster will be obliged to watch more carefully for yarn defects when running cakes than when processing skein yarn. It also appears certain that there will be an increase in waste, both from normal-running yarn and from defects.

Although cake throwing presents numerous problems, progress is being made in solving them.

Rayon and Cotton to Dominate

Full-fashioned hosiery for 1942 to stress use of "right stockings for right time"

ANY ANALYSIS of the 1942 outlook in women's full-fashioned hosiery, if it is to be even approximately abreast of present rapid-fire developments, must be written with one eye on the morning newspaper. With new fiber regulations emanating constantly from Washington, the market picture as of Monday is likely to prove completely obsolete on Tuesday. However, through all the complexities of wartime, two facts are outstanding: First, that the full-fashioned hosiery industry will continue, with such yarns and in such quantities as the Government permits, to produce merchandise of maximum value in appearance and service; and, second, that rayon and cotton face the greatest opportunity ever afforded them to win recognition in full-fashioned hosiery.

Let us glance briefly at the current market. Silk hosiery, now the best-selling line in retail stores, will be out of the picture within a few weeks. Nylons, second biggest item at the retail counter, have behind them in the mills a material supply equal to perhaps three months demand. As the Government has reduced the hosiery industry's allotment of Nylon to a negligible point, this successful hosiery yarn can be considered as proscribed "for the duration." Thus the knitter's production schedule, for any output beyond the next few months, must be based upon his two remaining fiber choices—rayon, in such deniers and quantities as will be permitted; and cotton, in the whole range of yarns, in various counts in singles or plies.

Coupled with the problem of fiber restriction is the new issue of color limitation. The range of full-fashioned hosiery shades has been reduced to the minimum by Federal order to conserve chemicals for war purposes. Indirectly the order conserves all materials used in hosiery by reducing distributors' inventories. At present the color range is as follows: Nylons, two shades; rayons, four to six shades; English lisle, two shades. This contrasts with a year ago when mills offered silk full-fashioned numbers in ten to twelve shades per season, plus an almost infinite number of "special shades." The special shades are out for the duration.

These fundamental changes are already beginning to make themselves felt, both in merchandising procedure, and in effect on consumer buying habits. As result of educational promotion by leading brand houses, women are becoming more purpose-minded in their hosiery buying. Indications are that they will soon abandon the practice of wearing sheer full-fashioned on any and all occasions. As rayon becomes more definitely established in high-style for evening, lisles and single-ply cottons—thanks to marked improvements in manufacture—will have an opportunity to dominate in the daywear field.

The "hosiery wardrobe" is a phrase which is likely to come into greater prominence as the year progresses. Among its early users was Bonwit Teller, New York department store, which stressed in its advertising to women "the right stockings at the right time." One particular ad went on, "Argyle socks for your moccasins; long lisle stockings for your sturdy walking shoes; full-length thin wools for winter activities around town; thinnest, sheerest dancing ingrains, the finest 15-denier Nylons. You wouldn't wear one pair of shoes with every costume, would you? We think the same goes for stockings."

A typical range put on the market by a large producer in January included five Nylon numbers to retail from $1.50 to $2.50; nine cotton numbers in seamless as well as full-fashioned, plain, and novelty ranging around the $1.00 mark; three rayon styles also retailing around $1.00. In other quarters the latter have been launched to retail from 69¢ up.

THE 1942 PICTURE can best be appraised in terms of the three fibers themselves—Nylon, rayon and cotton—as they stand in the market at the approach of our first wartime Easter.

Nylon: Nylon is being withdrawn from full-fashioned hosiery at the height of its success. This yarn now is used in a wide range of numbers, extending from all-Nylons, which have come to be a limited group, to Nylons with cotton or rayon tops and/or cotton or rayon feet, which are a major market item. Hosiery manufacturers report that Nylon now is established and standardized in full-fashioned, and that no basic changes in its manufacture, beyond the normal ever-continuing improvement, are looked for, either now or when Nylon returns to the hosiery field after the war.

Among the present most popular items is the 30-denier Nylon with lisle top and lisle reinforced foot. The bulk of the Nylon volume this spring is in the $1.95 numbers, retailers find.

Rayon: In evaluating the present rise of rayon in full-fashioned hosiery, it must be kept in mind that rayon's possibilities in this field have long been scanned by the industry's technical experts. These authorities point out, however, that the established place of silk, and latterly, the sensational rise of Nylon, have combined to delay recognition of rayon's possibilities as a full-fashioned hosiery yarn.

Rayon also has felt the pressure of Government restraint—one successful rayon hosiery yarn, recently perfected, has been withdrawn from the market and allotted to war purposes, and will not be available until the emergency ends. Like Nylon, though to a lesser degree, rayon allotments to hosiery mills are now restricted. Only certain yarns in specified quantities are authorized. These yarns, the knitters add, often are not in the proper denier, or, if the denier is right, the quantity is likely to be inadequate.

During the first period following the embargo on silk, hosiery manufacturers were allotted approximately 7% of the rayon yarn output; in recent weeks, this has been substantially increased, and now about 12% of viscose rayon and 6% of acetate are allotted to the hosiery industry. While a comparatively small number of full-fashioned mills have been making rayon hosiery, the output of these numbers may be expected to increase rapidly, as the Nylon supply approaches exhaustion. In such expansion, the knitters will work in close cooperation with the technical departments of the rayon producing companies. Finer counts and increased wet-strength are the chief goal of such effort, and the newest rayon-full-fashioned numbers show progress in that direction.

Rayon's place in the spring picture is significant and may be taken as an

augury of what is ahead. In current full-fashioned hosiery lines, rayon is widely used, its application extending from top and toe reinforcements in Nylons, to rayon leg numbers having cotton reinforcements, with the latter taking on a steadily growing importance. Best-selling numbers include the 75-denier, and the 100-denier. In these rayon is used for the leg and cotton is used for reinforcements. Cotton reinforcement in the foot of a rayon stocking is considered essential by some makers, at least until the wet-strength problem is solved.

Present full-fashioned offerings include a stocking, the leg of which is made of 50 denier rayon plus one thread of silk. This development has no immediate significance in itself, as silk is unobtainable and 50 denier rayon is becoming increasingly scarce; however, it is interesting as suggesting possible developments along the same line, with other fibers.

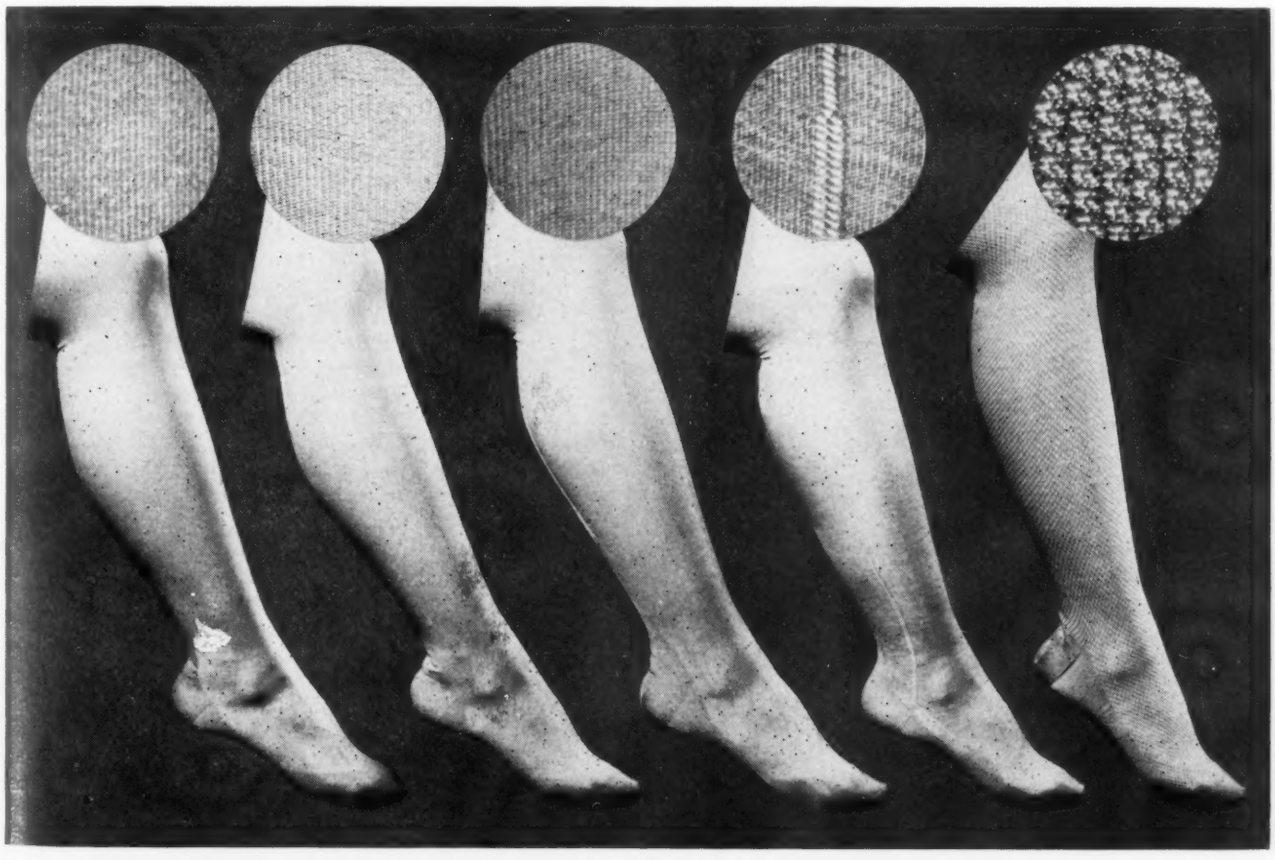
So far, 150 denier rayon has not been favored for full-fashioned, because it is too heavy. However, "necessity knows no law", and it is conceivable that lack of finer denier rayon this year may result in notable progress with 150s.

Manufacturers now making full-fashioned rayon numbers feel that a fundamental change in the whole rayon hosiery picture is taking form; they see the industry as laying the groundwork for the production, on a permanent basis, of an ever-improving line of rayon full-fashioned numbers, which will win consumer acceptance and confidence as standard merchandise.

Further experimentation on twists and finishes will doubtless hasten this consumer acceptance. Twists and plies which increase elasticity and strength of the yarn are sought, together with finishes which do the same thing as well as adding spot proofing and other desirable characteristics. The "Ray de Chine" patented construction, based on the crepe-de-chine twist, has progressed to the point of having 30 manufacturers signed up for the making of stockings which may carry that label.

Lisle and other Cottons: The increased popularity of lisle full-fashioned, both staples and mesh, is a feature of the current spring season. Underlying this demand, however, one can discern a basic trend of more than seasonal significance. With the exit of silk and Nylon, and the restrictions on rayon, both lisle and single-ply cotton become increasingly important in the hosiery outlook. Prices—always a barometer of market trends—reflect this new development. In the spring lines full-fashioned mesh numbers are retailing at from 79¢ to as high as $1.35 per pair. At present, most of the finest numbers are made of imported lisle, but supplies of these yarns are expected to be exhausted shortly, bringing increased use of domestic lisle. The shortage of 160 to 180 two-ply yarns in the domestic market points to the possible development of a somewhat heavier cotton full-fashioned made of single-ply yarn. Work in that direction is under way, and the result has been the manufacture of an 80 singles number which, it is asserted, has a degree of sheerness comparable to a 160 two-ply stocking.

THE WAR TIME OUTLOOK for full-fashioned hosiery may be summed up in the following. In volume production sheerness is likely to be subordinated and utility emphasized. Manufacturers will draw upon their technical resources to a degree never before equalled, in a determined effort to maintain standards of beauty and service, within the ever-narrowing range of fibers and yarns available.



SELECTED FROM THE NEW HOSIERY CROP—circles show fabric of the leg at true size. (Left to right) **1.** Nylon, cotton reinforcement *(Holeproof Hosiery Co.)*. **2.** An all-rayon construction *(Berkshire Knitting Mills)*. **3.** Rayon stocking, cotton reinforcement *(Julius Kayser & Co.)*. **4.** Staple cotton stocking with clox *(Gotham Hosiery Co.)*. **5.** Fancy mesh, mercerized cotton *(Phoenix Hosiery Co.)*.

20 Years of Progress

History of Dixie Mercerizing Co. is one of continual growth and modernization

By EARLE MAULDIN
Southern Editor, TEXTILE WORLD

TWENTY YEARS AGO Dixie Mercerizing Co., Chattanooga, Tenn., built its first spinning unit—a modest little mill of 12,000 spindles but equipped with the most modern machinery available at that time. Step by step, as the requirements demanded, the plant has grown and today, between the hills on one side and the Tennessee River on the other, there stands a highly modernized plant of 60,000 spindles surrounded by a model community of workers' homes.

Recent reorganization and general streamlining of various departments, with additional extensions to buildings where necessary, have put the entire mill in a splendid position to produce an even better-running yarn than heretofore.

The building program, now completed, consists of a new two-story opener and picker building, 92 by 103 ft.—part of it 92 by 153 ft.; a one-story extension to spinning room, 64 by 106 ft.; and a one-story extension, 25 by 92 ft., to twister package storage department—approximately 20,600 sq. ft. of additional floor space.

In the first floor of the picker building is located the opening room, the waste baling department, and the general supply or stock room. On the floor above is the picker room, waste room, and space for additional cards. The first floor adjoins the cotton warehouses, and the second floor makes direct contact with the main mill at the card room, so the picker laps are delivered at approximately the center of the card-room space. The building is designed with brick walls, generous steel sash, concrete slabs with wood top floors, steel beams, steel H columns, and standard tar and gravel roof with insulated wood deck.

AN INNOVATION in the design of the picker building is the omission of the customary dust chamber and flue. Recirculating air condensers, Knowlton-Newton type, manufactured by Whitin Machine Works, are employed to handle the air and dust from the picker fans, in lieu of the old "dust hole." Cleaner and more efficient separation, less fly in the atmosphere, and a reduction of the fire hazard result.

In the extensions to the main mill, the details of construction of the original building were adopted; viz., brick side walls, steel sash, wood floors, steel beams and cast iron columns.

To insure more even running work and improve quality from first process to the finished product, a complete program of reorganization and modernization of equipment was instituted, beginning in the opener room and extending through the twisting and winding.

In the opener room the final layout includes four units of opening and blending machines, each unit consisting of four new Whitin blending feeders and each feeding an apron which delivers to a hopper which, in turn, feeds into a No. 12 Saco-Lowell lattice opener. The cotton then goes into a pipe conveyor and condenser, thence into the feeder hoppers of the one-process pickers.

Located directly above the opener room are five H&B three-beater one-process pickers and one three-beater Saco-Lowell picker. Four of these pickers are served by two opening units, and the remaining two are fed by two units of opening equipment. This arrangement permits the running of four different classes of stock in the opening and picking processes at the same time. Since some four or five different stocks are in process of manufacture most of the time, the advantage of this flexibility is obvious. Delivery of cotton to the pickers is automatically controlled by use of electric relays operating to stop and start the line of blending feeders when picker hoppers are full or are in need of more cotton.

For each of the six pickers, there is a Whitin Model B, K & N type return air condenser; and for the cotton condenser fans and the dust exhausters on the blending feeders, there is a Model A return air condenser. The one Saco-Lowell picker, however, is equipped with its own self-contained air filtering system. All these return air condensers are located in the picker room. Recirculating the air in the room permits better control of atmospheric conditions and of lap weights. Each Model B condenser receives the air from four picker fans. Since all four of these fans are in the same picker, it has been found that the air currents from each fan and screen section can be adjusted and controlled more closely than formerly. The result is a cleaner and bet-

Four units of Whitin blending feeders, each feeding a lattice apron; overhead pipes are part of return air condenser system of picker room above

ter made lap. Further to improve quality, 38 new H&B cards have been installed, which will permit a slowing down of the production per card.

Long-draft roving frames have supplanted older types. Five new H&B four-roll 10x5 long-draft speeders and 15 8x4 five-roll long-draft speeders are now in service. Additional machinery installed in card room includes 16 deliveries of H&B drawing and 16 deliveries of Saco-Lowell drawing, one new lapper, one lap back-winding machine and six double-head combers. A careful revamping of Cook's card stripping has improved its efficiency and removed much of the curl from the strip.

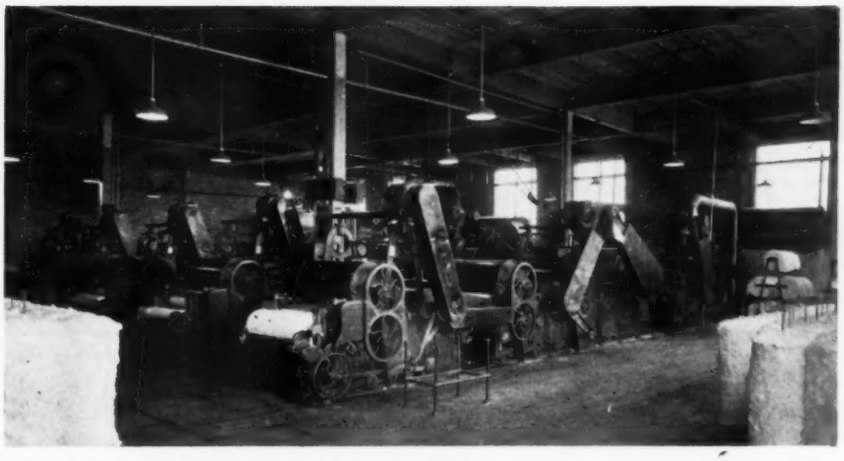
Twenty-six new H&B high-speed large package twisters—10 with 3-in. rings and 16 with 3½-in. rings have been installed to supply the demand for knotless yarns.

Much of the work recently undertaken by the company was not to increase plant capacity, but to enable it to keep pace with every advancing technique that operates toward the perfection of controlled manufacture, so vital in the production of "Dixie Durene."

THE PLANT, located at Lupton City, five miles out of Chattanooga, on the Hixson Pike, is pleasantly situated in the Tennessee hills and adjacent to the tremendous lake impounded by the Chickamauga dam, one of the TVA projects. There are some 225 houses. The village also contains postoffice, general store, drug store, restaurant, barber shop, church, school, community hall, gymnasium, swimming pool, and the latest addition—recently completed—a modern and completely equipped hospital. There is also a nursery and kindergarten. Three regis tered nurses are in attendance. The doctors and dentist have their offices in the hospital. The mill employs 1,150 people at the spinning plant and 450 at the mercerizing plant located across the city.

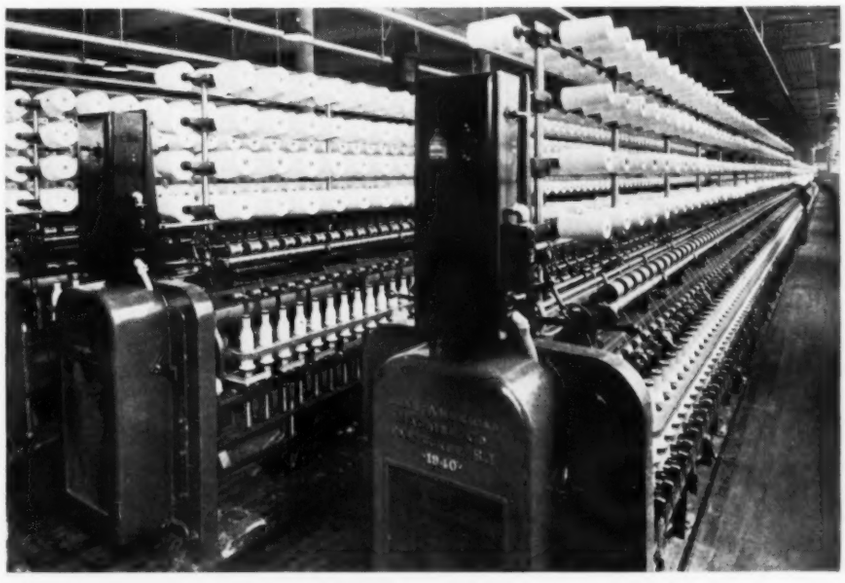
Officers of the mill are: George R. West, Jr., president; J. Burton Frierson, vice-president; Quay T. Morgan, secretary; H. K. Johnson, treasurer; B. P. Barnes, superintendent of mercerizing plant; W. N. Thomas, superintendent of spinning plant.

Robert & Co., Atlanta, Ga., were architects and engineers in charge of the mill work. General construction work was handled by Mark K. Wilson of Chattanooga, Tenn. Rockwood Sprinkler Co., Worcester, Mass., installed the sprinkler system, working through its Atlanta office. Heating system was put in by John Cuneo Plumbing & Heating Co., and electrical contracts were handled by Terrell Electric Co., both of Chattanooga.



Five of the six one-process pickers, each of which is equipped with return air condenser

A section of the card room, which contains 38 new cards; note the air stripper



H&B high-speed large-package twisters have been installed to meet the demand for knotless yarn

Your Management: Modern or Static?

World conditions demand self-rating by management, and correction of faults

"**THE DEFENSE PROGRAM** we are now undertaking will undoubtedly lead to declining real income, resulting in many marketing changes and other necessary adjustments. No manufacturer should feel particularly at ease merely because orders are flowing in faster than ever

Regardless of the outcome in Europe, business will sooner or later find it necessary to adjust itself to post-war conditions. Drastic changes and improvements will be necessary for many concerns to survive.

"One of the important reasons business should appraise (its) efficiency is the influence of efficient management upon attitudes of labor and Government.

"In order to aid business management to rate its own ability, and to discover weaknesses which might be corrected now when orders are plentiful, we have prepared the inclosed chart which shows business management in . . . typical stages of development."

The above, quoted from a letter written by Wolf & Co., Inc., Chicago management engineers, gives in brief the background and purpose of the chart from which this article was adapted.

	Modern Management	Static Management
Finance	1. Forecast of profit by periods.	1. No profit forecast; no accurate knowledge either of profit required or profit attainable. No plan—no definite effort to insure an adequate return on utilized capital.
	2. Budgetary control of all expenditures, based on scientifically established standards.	2. No attempt made to budget or forecast performance.
	3. Forecast of required working capital.	3-4. Working capital inadequate and partially "frozen". Balance sheet ratios "unbalanced". Not a good credit risk.
	4. Provision in advance for obtaining required funds at economical cost.	
	5. Adequate reserves for replacement of obsolescent and depreciating assets, represented by liquid funds to the extent required.	5. Nominal reserves without due regard to actual value of assets. Frequently used for other than originally intended purpose.
	6. Dividend policy consistent with sound, long-term financial program.	6. Financial policy, none, except to spend as little as possible for anything.
Sales	1. Knowledge of market, based on research and analysis.	1. Knowledge of market confined to limited personal contact with customers, or to conditions reported by salesmen.
	2 Sales budget classified by products and customers, equitably allocated to salesmen and territories.	2. No sales budget; no "quotas" for salesmen; no program.
	3. Trained salesmen, intelligently directed.	3. Some salesmen on salary; part-time men on commission; sales manager, so called, occupied principally with clerical detail; supervision of salesmen weak.
	4. Coordinated program of selling, promotion, and advertising.	4. Advertising spasmodic, poorly planned and executed. No sales promotion worthy of the name.
	5. Sound pricing based on standard costs.	5. Selling prices competitive without due regard to over-all effects on profit or loss. Based on estimates without verification with actual costs.
	6. Determination of profit or loss by salesmen, by territories, and by customers; and according to product classifications, through scientific expense distribution.	6. No analyses of sales by product, customer, or profit classifications.
	7. Selective selling—selling effort directed in accordance with maximum profit possibilities, as regards territories, types of customers, and lines of product.	7. Selling effort unorganized; misdirected.

	Modern Management (Ctd.)	Static Management (Ctd.)
Production	1. Modern machinery, equipment, and methods. Supervision of production intelligent and organized, well planned and scheduled. Equipment physically arranged for orderly and economical production.	1. Equipment partially obsolete. No planned arrangement for orderly and economical production flow.
	2. Equipment efficiently maintained; maintenance costs controlled.	2. Equipment repaired as needed; no maintenance or replacement policy.
	3. Excess and idle capacity measured in terms of effect on costs.	3. No budget; no conception of cost control, except to "watch" expenses.
Personnel	1. Organization "charted" as to functions, personnel, and responsibility; junior executives trained and developed for key positions.	1. Organization of the "one man" type. All problems gravitate to president's desk. His decision is final.
	2. Excellent interdepartmental coordination.	2. Responsibility is delegated without due authority, resulting in confusion and dissension and a considerable mortality in important positions.
	3. Well-defined labor relations policy and program.	3. Lack of labor policy—friction, discontent.
	4. Direct labor costs controlled through incentives based on time production standards, increasing labor's earnings and decreasing unit costs.	4. Wage rates at lowest possible levels. Piecework rates based on management's conception of what an employee should earn.
	5. Key-man bonus for supervision.	5-6. "Driving" tactics depended upon for forcing production output. No incentives for superior effort or results.
	6. Salesman's bonus based on volume and gross profit realization.	
	7. Bonus plan for executives.	7. Pay of executives depends on stock ownership, seniority, or favoritism; no incentive or reward for traceable results.
Costs and Accounting	1. Accounting designed with a view to its total effectiveness—procedure, records, forms, and reports. Accounting providing usable information only, promptly, instead of pure history.	1. Accounting "old-fashioned" and incomplete, but accurate from bookkeeping standpoint. Procedure antiquated, cumbersome, and wasteful. Accounting not highly regarded as a tool of management.
	2. Unnecessary accounting and records eliminated. All control records and reports tied into standard costs under direction of accounting division. Estimates tied into costs, eliminating guesswork and loss of either volume or profit.	2. Cost records incomplete. No production report.
	3. Selling prices of individual products, in their effect on total profits of the business under varying operating capacities, known at all times.	3. Profit or loss determination not departmentalized. Profit or loss estimated monthly; verified and adjusted annually in accordance with inventory.
	4. Determination of each outlay cost by product, and of burden adsorption at varying levels of capacity utilization. Effect of additional volume upon cost and profit easily determinable.	4. No distribution of profit or loss reports to responsible executives.
Budgetary Control	1. Budgetary control of all expenses through medium of flexible budget standards.	1. No conception or use of budgetary control.
	2. Daily, weekly, and monthly reports on performance of all operating divisions which exhibit: (a) standard or budgeted performance; (b) Variance between the actual and standard performance.	2. Management not well informed in matters outside of own sphere. No broad-gage, long-term, planning or program. Policies vacillating; not founded on thoughtful analyses or complete information.
	3. Definite knowledge of the effect of all selling prices on budgeted amount of total net profits.	3. Price structure chaotic. Cost estimates ignored where considerable volume is involved. No conception of profit effects of cutting prices to meet competition.
Research	1. Research for constant improvement of product, and of equipment and methods of manufacture.	1-2-3. No research.
	2. Research for development of new products and markets.	
	3. Research to perfect distribution methods.	

Saving Steam in Finishing

Methods of effecting heat economies in wet processing cotton, rayon, and wool

By PAUL L. GEIRINGER
Textile Industry Research, Inc.

PROPER SOLUTION of a few fundamental problems is essential if major steam economies are to be effected in plants engaged in bleaching, dyeing, and finishing cotton, rayon, and wool. These problems are: (1) how to heat and how to maintain near the boiling point water and weak solutions of various chemicals in the most efficient way: (2) how to dry and evaporate water from yarn and cloth most economically; (3) how to produce and utilize hot water economically; (4) how to effect in the best way the recovery of waste heat; (5) how to recover the steam used for various steaming procedure; and (6) how to combine best the use of process heat with the heat required for generating power. There are certain general rules which have to be observed in solving these questions.

First, heating of water should be carried out in closed, not open, equipment. This rule is axiomatic, but is really not enough appreciated. From ½ to ⅔ of the total heat required can be saved by covering the equipment. If the water has to be kept at or near to the boiling point for a prolonged period the inclosure is a fundamental requirement.

The inclosure of dye kettles has been tried often, but its value is not yet sufficiently appreciated. Some inclosed dyeing machines have been installed, but rayon dyers particularly have been hesitant about adopting them. Most of the rayon dyers stick to their old, open equipment in order to "supervise the running of the cloth." This reason is not at all valid, because well-designed dyeing machines are on the market which stop the machine automatically when the cloth becomes tangled. Also the equipment is illuminated internally, so that the material can be watched through the windows. Prejudice on the part of the dyers has hampered more widespread adoption of inclosed dyeing machines; and row after row of uneconomical open dye kettles heated with steam jets can be found in many plants. Dyers using this primitive equipment accept their enormous steam consumption as an inevitable necessity. But this "necessity" is neither unalterable nor inevitable.

Heating of water with open steam jets is costly. Use of closed coils, especially if heated with high-temperature hot water, is more advantageous. The ability of water to condense steam decreases as its temperature rises. At 212° F. its receptive capacity is zero and at low temperatures of about 40 to 50° F. it is quite considerable. Curve *A* shows approximately its course, without giving the exact shape or figures, which are not important for our purpose. Assume that live steam is injected to heat up the water. Curve *B* shows the amount of heat introduced by this steam. It is obvious that the steam is absorbed only up to a certain temperature and that the other part is wasted. Up to a temperature of 150 to 170° F. most of the steam is utilized. Good dyers try to reduce the steam injected by adjusting the valves as the bath approaches the boiling temperature, but they deceive themselves by assuming that they are able to adjust the quantity of steam to the actual requirements. The valves used on the steam line of the dye kettles usually do not have a throttling range corresponding to this task. Even if they succeed in throttling one-third off, as shown in line *B'*, considerable steam is still lost.

INDIRECT HEATING avoids this loss to a large extent. The heat transmission of the coils is in direct proportion to the temperature difference between the coils and the dyebath. As the temperature of the water increases, this difference decreases as shown in curve *C*, and, therefore, the heat transmission is considerably reduced as the boiling point is approached. If a double-valve system is used, the waste is reduced to a minimum. With an adequate sized coil system in the dye kettles, heating of the bath can be accomplished as quickly as with open steam. The extent of coil surface required for yarn and cloth dyeing often is overestimated. Frequently it is even assumed that the equipment is not large enough to accommodate adequate coil. However,

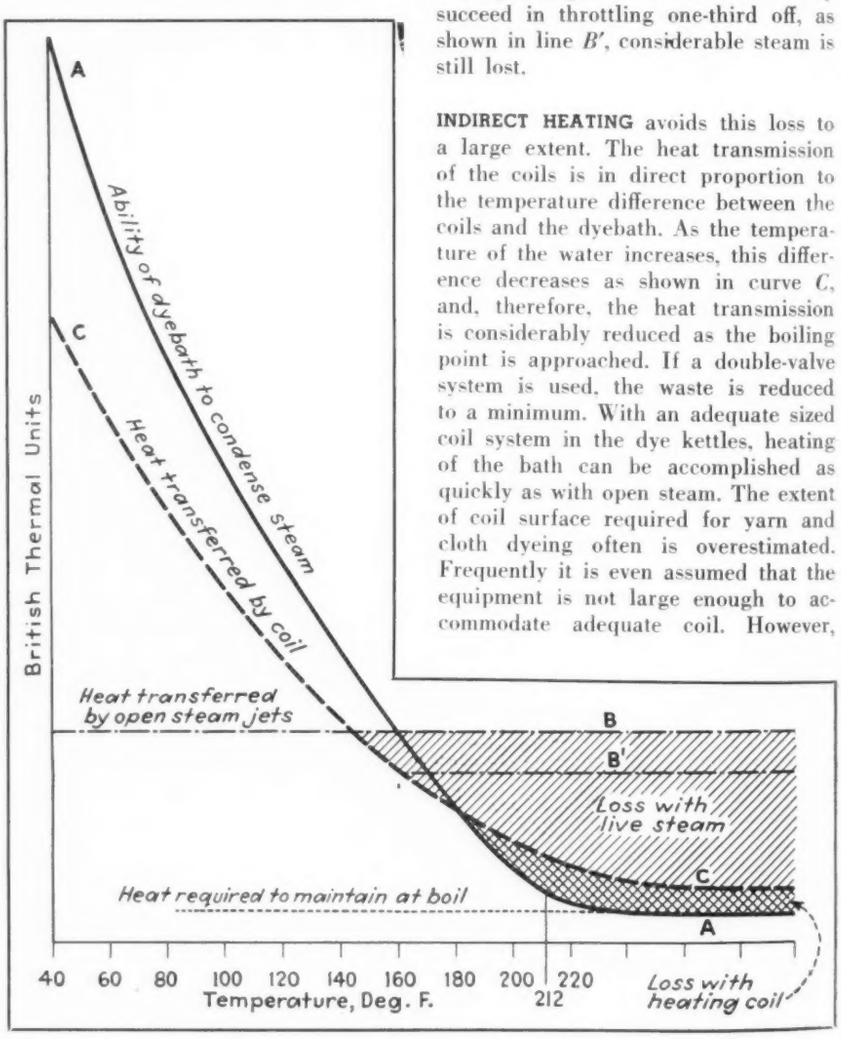


Chart showing ability of dyebath and other solutions to condense steam, and heat losses with both live steam and closed coils

this is seldom true. Most yarn and cloth dyeing machines have ample space along the bottom or sides for the placing of a thin coil. The author suggests that in future design of dyeing and finishing equipment, more attention should be given to this problem. This applies to the design of raw stock dyeing equipment for wool and cotton; package and skein dyeing apparatus; and cloth dyeing equipment, such as jig, continuous rope and full-width dyeing machines, padders, etc.

Considerable savings can also be effected in some instances by reducing the temperature of the dyebath. Many dye formulas recommend that the bath be kept boiling for a certain period of time—usually between 5 min. and 1 hr. Some dyers try to carry out this instruction too literally, but others have found out that with many formulas they can achieve the same result by reducing the temperature to 180 to 200° F. The amount of heat consumed is much less if such a reduction can be made.

Heat economy in kier boiling has been improved greatly by the introduction of indirect preheaters. Most plants already use such preheaters. A further important step would be the introduction of a practical insulation for the kiers, pipes, and preheaters. The heat losses resulting from the uninsulated surface of the equipment are considerable. These losses have to be compensated for during the boiling period of 8 to 14 hr. Opposition to insulation of kiers, etc., comes mostly from the assumption that the cooling-off period, after having completed the boiling, would be increased. Such reasoning is not too valid, because, due to the insulation, time required for bringing the liquid to the boil is reduced; furthermore, the cooling down of the kier contents by circulating of cold water cools down the kier in the same time. Thus by the curtailing of the "mounting time," the total time required for the boiling operation will not be extended, but reduced. More important is the objection that normal insulation would not withstand for a sufficient length of time. However, insulating materials have been developed which overcome this objection.

IN DRYING, water is removed mostly by evaporating. To extract it by mechanical means, by vacuum, by pressing between rolls, or by centrifugal force is certainly cheaper. Too little attention is paid to this preparatory dehydration of yarn and cloth. With modern equipment, dehydration of cotton print cloth as low as 70% is possible, but even 80 to 90% is quite satisfactory; however, it should not exceed 100%. Rayon and wool goods cannot be extracted so far. The writer considers that 90% is a good percentage for rayon, and for most wool materials. Ordinary padders usually provide insufficient dehydration. Centrifugal extractors give good dehydration, but are more restricted in their application, because the loading and unloading require more help.

Drying by means of hot air has improved considerably in efficiency in the last 10 years. The consumption of steam for hot air dryers has successively been reduced from 5 lb. of steam per 1 lb. of water evaporated to 2 lb., or even less. Stepping up of the temperature of the air and increasing its velocity have helped to obtain increased drying speed and to lower heat consumption. It appears now that further increases in output of drying machines calls for redesign of the equipment. For example, if a speed of over 175 yd. per min. is to be maintained on tenters, the chains will need to be redesigned. Heating of air with steam or hot water is comparatively economical. Gas can be employed, but the expense is usually greater. Drying with air at 300° F. is more economical than at lower temperatures. However, most textile men are still adverse to the idea of using as high a temperature as this even for cotton, although it has been proved that as long as the cloth contains some humidity the high temperature has no detrimental effect.

Contact drying as carried out on dry cans is an economical method, but the speed is rather limited, mostly in order not to have too large machines with too many cylinders. An increase in speed by using cans with various steam pressures, similar to the machines applied for paper drying should be possible, and a further considerable increase in speed should be made possible in this way. By blowing hot air at the surface of the dry cans an increase in output of 20% is possible.

Speeding up of the drying process by radiant heat produced by infra red lamps is now under way. Simplification of the drying equipment and of some processes will be possible in this way. However, the higher cost of electricity may prohibit its general application, in spite of the considerable advantages offered by this method.

Economical production and application of hot water require attention. Hot water should be obtained primarily from waste heat of the effluents of kiers, dye kettles, jigs; waste steam from the flashing-off of condensate; exhaust steam from pumps; or eventually by extracting heat from the condensate, or from boiler combustion gases before leaving through the stack. If all these sources are exhausted, live steam can be applied. The temperature of the hot water should be kept as low as possible. For woolen mills a water temperature of approximately 110 to 120° F. is most advantageous. In order to avoid the necessity of large tanks for the accumulation of the hot water, it is sometimes stored at a higher temperature, but it is not advisable to use it at this high temperature because much waste of heat would result. Use of hot water in dyehouses is always advantageous, especially if the hot water is produced from otherwise "lost" heat. If the water is produced from live steam, care must be taken not to waste the hot water; otherwise its introduction does not mean any saving, but additional expense. Insulation of the hot water distribution pipes is especially essential.

RECOVERY OF HEAT from the effluents of various processes is in most instances well worth while. Usually amortization of the initial investment can be reached in 3 to 5 years,—sometimes even quicker. Such a relative short amortization period can only be obtained if the preheaters are heated by effluents of not too low temperature. Separation of effluents of low temperature must take place before they are utilized for heating fresh water. To recover the heat from effluents which are greatly reduced in temperature by the admixture of cold water is usually much too costly. Recovery of heat from effluents of jigs, kiers, continuous dyeing machines, soapers, etc., is particularly advantageous.

Recovery of steam from agers and steamers is a problem which has been virtually completely neglected until now. Large quantities of steam are wasted in this way. Agers employed to develop and fix the colors after printing consume a considerable amount of steam which usually is allowed to escape. Clouds of steam can be observed eminating from the roofs of the printing departments. It is seldom realized that this is clean steam which can be recovered. Recently, however, equipment has been designed to condense this steam and to utilize it in production of hot air or hot water; the equipment is so designed that the functioning of the steamer is not impaired and all the steam is recovered. Such a plant permits sufficient savings that the initial investment can be recovered in 1 to 2 yr.

(In a subsequent article Mr. Geiringer will discuss methods of obtaining maximum over-all efficiency in finishing plants by proper combination of power generation and distribution of heat for process purposes.—*Editor.*)

Load to Straighten Cotton Yarns

Results of recent investigation will permit improvement in test procedures

By PROF. HERBERT J. BALL
Lowell Textile Institute

IN THE TESTING OF YARNS it is customary to specify in some manner the tension to be applied in certain important length-measuring operations in which the final results will be affected by the magnitude of the applied tension. Some examples are the winding of a standard skein for yarn-number determination, the use of a definite length of yarn in a twist tester for determination of the twist per inch, the direct measurement of the total length of yarn or thread on a package, and the insertion of a definite length of test specimen between the jaws of a strength tester when ascertaining the load-elongation characteristics of the material.

Presumably the length desired for such purposes is that of a straight but unstretched yarn; of a yarn free from the waviness, bends, and kinks characteristic of yarn unwound from a package.

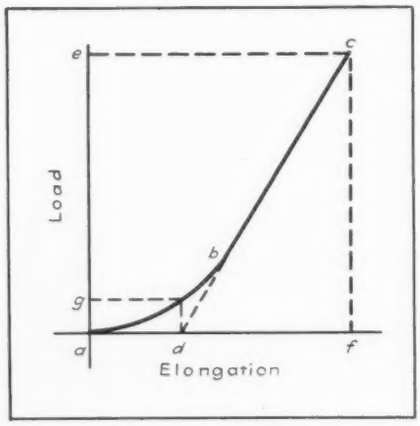


Fig. 1. Load-elongation diagram for singles cotton yarn

As the magnitudes of tensions specified in test procedures appeared to be of an empirical origin, it was decided to determine the load necessary to straighten, but not stretch, a singles cotton yarn in the form it assumes when unwound from a bobbin; i.e., the load to remove the crimp.

It is assumed that the application of any straightening force, however small, will also stretch the yarn. Hence some method must be employed which will break up the total resulting elongation into its two components; namely, that due to the removal of crimp and that due to the stretch of the yarn. The method used is an adaptation of one developed by E. D. Walen for measuring the crimp in a yarn taken from a woven fabric. The principle in brief is as follows: Small, equal increments of load are applied chainomatically to the yarn, and the corresponding elongations are carefully measured by means of a linear comparator. These data are

LOAD TO STRAIGHTEN SINGLES COTTON YARNS

Yarns From Warp Wound Bobbins

Actual Yarn Number	*Twist Multiplier*	*Number of Tests*	*Load in Grams*	*Grams per Den. x 100*
2.9	3.8	50	3.91	0.21
4.9	3.9	10	3.41	0.31
7.6	4.1	10	3.18	0.46
9.2	4.0	10	3.27	0.57
9.8	4.1	10	3.42	0.63
9.9	4.9	50	3.28	0.61
11.8	3.6	50	3.17	0.70
13.3	3.9	50	3.19	0.80
15.1	4.2	10	3.12	0.89
19.8	4.9	50	2.86	1.07
29.3	4.8	50	3.15	1.74
34.6	5.9	50	2.27	1.48
46.2	4.3	50	2.11	1.84
57.8	3.4	50	2.47	2.69
79.6	4.0	50	2.11	3.16
103.3	3.9	50	1.79	3.48

Yarns From Filling Wound Bobbins

Actual Yarn Number	*Twist Multiplier*	*Number of Tests*	*Load in Grams*	*Grams per Den. x 100*
3.1	4.2	10	4.63	0.27
5.0	4.4	10	4.65	0.44
7.3	4.1	10	4.26	0.59
8.8	4.6	10	4.21	0.70
10.6	5.0	10	4.06	0.82
13.3	4.6	10	3.60	0.90
16.9	4.4	10	3.46	1.10
18.8	4.8	10	3.18	1.13
35.0	3.9	10	3.02	1.99
36.4	3.7	10	1.93	1.32
49.9	4.4	10	1.51	1.42
66.2	4.0	10	1.53	1.91
70.0	4.3	10	1.47	1.94
78.4	4.1	10	1.28	1.89

plotted, giving a load-elongation diagram *abc*, Fig. 1.

The straight portion, *cb*, is extended to cut the elongation axis at *d*, thus dividing the total elongation *af* into two parts. The portion *df* represents the stretch of the yarn and *ad* the crimp; *ag* is taken as the load to remove crimp or to straighten the yarn.

The yarns used were singles cotton yarns obtained from a variety of industrial sources. They were not prepared especially for this purpose, but were taken at random from whatever supply was available. They were thoroughly conditioned before testing in an atmosphere with a relative humidity of 65% ± 2%.

Each yarn was first tested for yarn number and twist per inch, from which the corresponding twist multiplier was computed. It was then tested for load to remove crimp in the manner described above, using an initial length of specimen of 10 in. approximately. The results are given in the accompanying table and are separated into two groups: (1) yarn from warp-wound bobbins, and (2) yarn from filling-wound bobbins. The grams per denier has been calculated from corresponding values of actual yarn number and the load to straighten the yarn.

Considering yarns from warp-wound bobbins first, it is obvious that as the yarn number increases from 3 to 103, the load required to straighten a yarn decreases from 3¾ to 1¾ grams, approximately. For filling-wound yarns, the same character of trend is apparent, but is somewhat more pronounced. For an increase in yarn number from 3 to 78, the load decreases from 4¾ to 1¼ grams, approximately. The nature of this relationship and the fact that it is not linear is brought out more clearly by reference to the full lines in Fig. 2.

The quantity, grams per denier, given in the last column of the table was computed in order to determine whether the loads to straighten yarns produced the same unit-stresses in each. The results indicate a marked increase in unit-stress as yarns become finer.

One method of stipulating the tension to be applied to a yarn is to specify that it shall be equal to the weight of a fixed number of yards; for example, 100. This has the effect of keeping the unit-stress identical in yarns of any size. Inasmuch as it was shown in the last paragraph that the unit-stress does not remain constant, the yardage corresponding to each straightening force has been computed and the results are shown graphically by the dotted lines of Fig. 2. For this computation, the value of the straightening force was taken from the curves shown in full lines and not from the actual test data.

New method for determining load to remove kink from cotton yarns will permit greater precision in tests

It is suggested that use may be made of the results reported herein in three ways.

1. The specific straightening force in grams for any cotton yarn can be read directly from the plots (full lines) and used as such. This means a different tension for each yarn.

2. A table may be prepared from the plots specifying convenient stepped loads, each covering a range of yarn numbers, for example, the use of 4¼ grams for filling yarns from 3s to 13s.

3. The straightening forces in 1 and 2 may be expressed, if desired, in terms of yardage of yarn by direct reading from the plots (dotted lines).

(This article, which was abstracted from the November, 1941, issue of the *Bulletin of the Lowell Textile Institute*, is based on data from two theses prepared under the direction of Professor Ball, by Bronislaw J. Swiatek and Jose V. Gari.—Editor.)

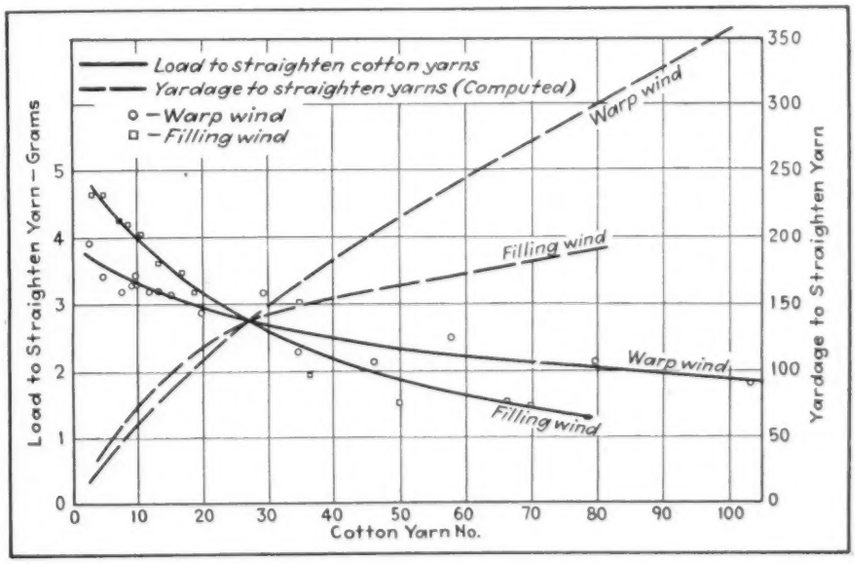


Fig. 2. Chart showing load required to straighten singles cotton yarns

To Make Research Pay

Textile industry needs ably staffed and well financed central organization

By PETER M. STRANG*

A BRIEF SURVEY of textile journals during the early 1920's discloses articles with the following titles: "Research in the Textile Industry," "Fundamental Research in the Cotton Industry," and "Starting Textile Research." If textile research has been discussed for over 20 years, there must be reasons why it has not been undertaken and why its results have not taken the industry out of the doldrums.

Some of the reasons are the following: The cotton textile industry is composed of many small units with relatively small capital. These mills make a highly competitive product. New yarns, fabrics, or designs obtain little or no patent protection and are easily copied. Each manufacturer has about the same equipment and processes. One mill does not have the money to spend to solve its problems for the benefit of the entire industry. No textile company is self sufficient enough to support a staff to design and make its own equipment. The textile industry is not organized to hold its best research workers.

Fundamental research is, for these reasons, too great an undertaking for most mills; and individual plant research should be considered as a combination of elementary research, production and industrial engineering, mill testing, and the development of controls for manufacture. For a cotton manufacturing company, research seems to fall into the following sub-divisions: (1) raw cotton, (2) manufacture, (3) labor, (4) new products and new uses, (5) sales and distribution.

INDIVIDUAL PLANT RESEARCH. The potential savings from research on raw cotton requirements may be great in some instances, but probably never would amount to more than 5% of the raw cotton cost.

Research in manufacture may reduce costs somewhat by rearrangement of the processes and machinery in the plant, by increasing the package size of material in process, by rearrangement of drafts, etc., and by keeping the management informed as to what new equipment to purchase. Cooperative testing with the machine builders may lead to considerable savings in manufacture, but the mill has no way of protecting improvements it finds.

At present there seems to be a great need for definite knowledge concerning fatigue in workers and to learn what mathematical allowances are required in job layouts because of machine interference and spasmodic labor loads due to irregular cycles in operation.

New products and new uses for cotton goods have been studied for many years by Government and private agencies and the results at times have been very profitable. A manufacturer has a certain amount of latitude in varying such factors as yarn size, twist, and ends per inch in cloth in order to give his selling force talking points. However, he may gain but a temporary advantage over his competitors.

Many progressive mills have already entered the field of research in sales and distribution. Since the selling price of most textiles is set on the open market and the volume of production is definitely restricted by 24-hour operation, there are limits to the possibilities of this type of research.

FUNDAMENTAL RESEARCH. The discussion of fundamental research to aid the industry now arises, and with it several pertinent questions appear: (1) What are the chances of the industry being superseded before research can accomplish anything? (2) Has the industry reached such a stage of development that no further progress can be expected? (3) What can research accomplish for the industry? (4) Who can accomplish this research and interpret the results?

The chances of the cotton textile industry being superseded before research can accomplish anything seem negligible. For one reason, the uses of yarns and cloths seem too closely interwoven with the customs and habits of the human race to consider their being completely discarded in anything but a long period of time even if adequate substitutes should be found.

The opening and picking operations are fundamentally the same as they were 100 years ago. The cards used, except for sturdier construction, are practically the same as they were 50 years ago. The flyers on roving frames are almost the same as they were 100 years ago. In the last 50 years aerodynamics, electronics, electrical engineering, mathematics, statistics, physics, and chemical engineering are a few sciences which have made great progress. Application of these sciences to limitations found 100 years ago offers a fertile field for research investigation.

Elimination of any of the bottlenecks of progress will aid not only cotton textiles, but also the machinery builders, who will probably be the first to profit by textile research. If, for example, research can develop a loom which will operate at 800 picks a minute and can be manufactured and sold at a reasonable price, all existing looms will be obsolete.

Basic knowledge of fiber properties may furnish a means for radically changing the whole process of carding through a different type of equipment which consolidates several existing processes. Knowledge of the electrical properties of the fibers may lead to greater speeds in drafting and stronger yarns. Knowledge of the effects of temperature, humidity, and ionization of air upon fibers may change manufacturing conditions.

CENTRAL RESEARCH ORGANIZATION. If each mill in the country were to spend an amount equal to 2% of its annual sales on research, as is sometimes mentioned, and the research were conducted independently in the 1,000 mills, the present status of the industry would not be changed. Each plant might benefit to some extent from its own efforts, but many of the research units would be of doubtful quality. Duplication and waste effort on minor problems would militate against attacking the major problems. In general, the returns to the industry would not be commensurate with the expenditures. Hence, the need of a central organization similar to the Shirley Institute, in England, to do textile research becomes evident. Here the ablest scientists would work with men familiar with the industry and would attempt to solve definite problems. The results of this research will put many marginal mills out of business, but for a time it will make this country the leading textile producer in the world.

Although cotton textile research has been discussed, research on the other fibers should parallel the work on cotton. In some cases the solution of a problem for one fiber may overlap and extend to others.

* Abstracted from March issue of *Textile Research*, official publication of Textile Research Institute, Inc., and the Textile Foundation.

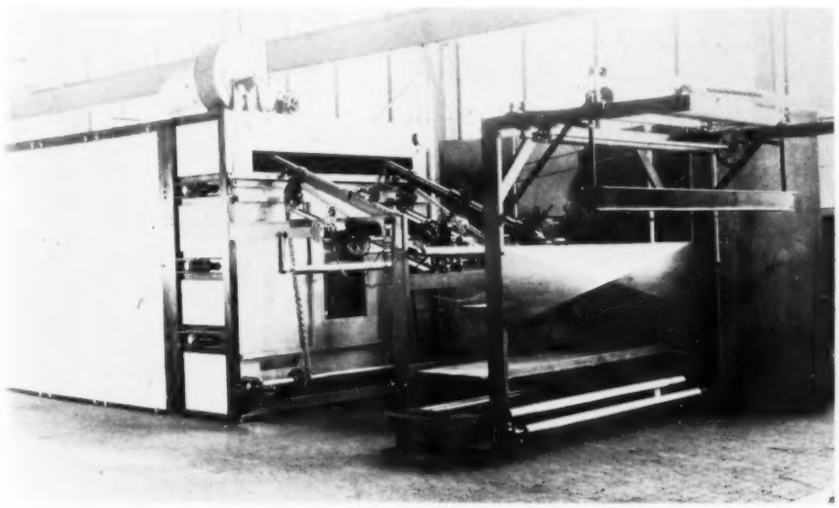
TEXTILE EQUIPMENT NEWS

High-Speed Tenter Dryer

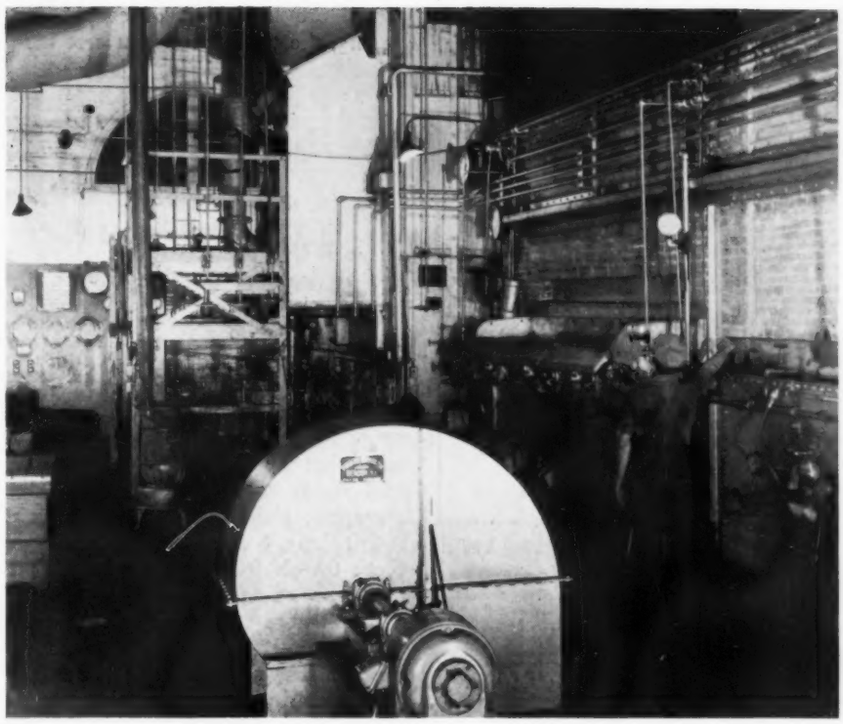
For drying woolens, worsteds, plushes, felts, etc., James Hunter Machine Co., North Adams, Mass., has recently introduced a high-speed Uniflow tenter dryer. The Uniflow dryer is based on the principle of drying by forcing air at high velocities through the cloth warpwise for its full width. The average exposure of fabric to heat and air ranges from 1.2 to 4 min., depending on the weight and construction of the cloth. For example, with the new dryer, 14-oz. worsteds are being dried at 25 yd. per min.; 9-oz. woolens at 28 yd. per min. Advantages cited, other than fast drying, include uniform drying; adaptability to range operations; continuous drying due to virtual elimination of cleaning time; low steam, power, and labor costs; and safe drying without danger of shady or damaged goods.

The dryer is of steel construction; the tenter chain is of unique construction and can be equipped with pin plates of a size and type to meet individual requirements; roller bearings are employed throughout; housing consists of metal-clad plates filled with 1½-in. insulation.

Standard equipment furnished with the dryer is as follows: (1) electrically driven power width control for changing the width; (2) limit switches to stop the dryer if the cloth should fail to engage the pins when going into the machine, or if the cloth should fail to strip off the pins when leaving the machine—also to prevent the operator, when operating the power width control, from running the machine beyond its predetermined minimum and maximum; (3) all motors for driving the fans, with all necessary starters; (4) necessary motor and Reeves variable-speed drive; and (5) necessary motor for driving the exhaust fan, with starter and approved fan.



High-speed tenter dryer (James Hunter)

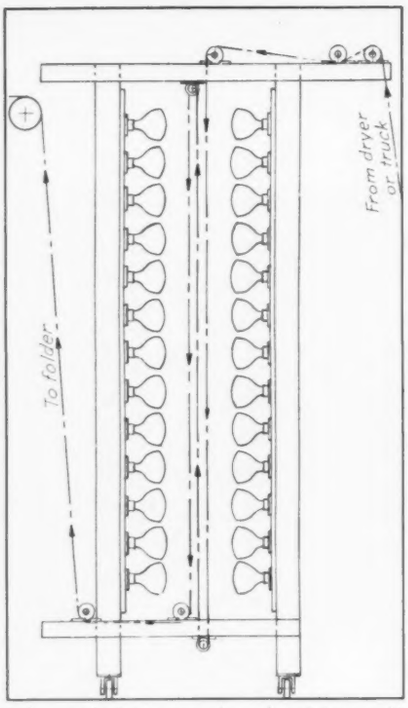


New boiler at Clearwater Mfg. Co.

Optional accessories are: (1) automatic cloth guide; (2) Hunter selvage opener; (3) air-operated, non-recording or recording temperature controller; (4) electric indicating tachometer with remote control for variable speed; and (5) humidity indicators or controllers.

Steam Costs Reduced by Modernization

Modernization of the boiler plant at Clearwater (S.C.) Mfg. Co., resulted in a reduction of approximately $900 a week in steam generating costs during the first year of operation of the new plant, according to an article in a recent issue of the *Power Specialist*. The new unit, a B & W pulverized-coal fired integral-furnace boiler, is designed with a normal capacity of 75,000 lb. of steam per hour at 240 lb. pressure and 550° F. Generating 7,000,000 lb. of steam per week, with ample capacity for peak loads, the new boiler burns an average of 343 tons of ⅜-by-0 coal, costing $4 per ton. Over-all operating efficiency is 87%, producing 10.10 lb. of steam per lb. of coal, at a fuel cost of 21.6c. per 1,000 lb. of steam. Another important aid to achieving maximum efficiency



Infra-red drying and carbonizing unit (Riggs & Lombard)

was the provision for adequate insulation. Typical insulation specifications are 4-in.-thick Johns-Manville 85% magnesia blocks with ¾-in. cement finish on primary air fan and ducts from air heaters to burner box and to primary fan; a 2-in. thickness of the same insulation with ¾-in. cement finish on induced draft fan, flue from air heaters and fan, and fan to main breeching; and 1½-in. blocks with ¾-in. cement finish on the air heater. On the flue from the boiler to the air heaters 2 in. of J-M Superex blocks, an insulation suitable for temperatures to 1900° F., were applied with a ¾-in. cement finish. On steam leads, J-M Double Standard thick 85% magnesia was applied; and on all other piping the standard thickness was used, all finished with sewed-on canvas jackets.

Carbonizing, Drying with Infra-Red Lamps

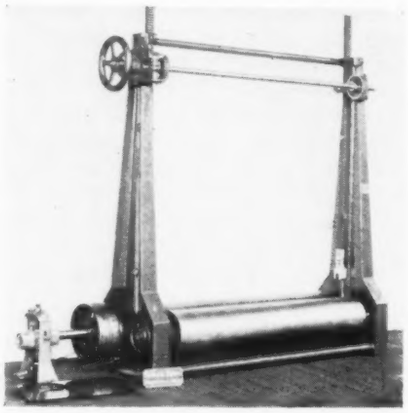
An infra-red lamp unit for carbonizing vegetable matter in woolen cloth after treating with acid and drying, and also for use as a booster in front of an ordinary tenter dryer, has been introduced recently by Riggs & Lombard, Lowell, Mass. Initial runs on experimental units installed in various mills are said to have met with great success.

Advantages which are cited for this equipment include a large saving in floor space and better cloth as compared with the conventional baking unit. The rays penetrate and dry evenly from within. Therefore they leave the surface fibers in better condition and eliminate any tendency of the cloth to yellow. This method also permits an increase in production, so that, although the operating cost is considerably more than that of conventional baking, the total production cost is reduced up to 32%.

One requirement for the most successful operation of this equipment is to slightly over-dry the cloth in the tenter dryer; that is, to "start" the burrs at that point. The average infra-red unit consists of two sets of 175 lamps of the R-40, 250-watt type mounted on two vertical boards 7 ft. square, the lights being spaced on 6-in. centers and staggered to give a 3-in. pattern. These lamps develop a temperature in the cloth of about 550° F. The distance between lamps on opposing boards varies from 10 to 18 in. The number of times that the cloth passes through the unit varies with the weight, but the average is about three times. The unit is 2 ft. long, 8 ft. wide, and 8 ft. high. Cloth travels from 17½ to 28 yd. per min., depending on the weight. Total time of exposure averages about 25 sec.—for a 12-oz. woolen it is 28 yd. per min. The usual location is between the tenter dryer and the folder. Cloth up to 78 in. wide can be handled by this unit. Kilowatts consumed by this unit are 87½.

When infra-red lamps are used for drying only, the usual practice is to set 60 lamps across the entrance rails to the tenter dryer and use them to boost the production of the latter. In this way capacity of the dryer is increased about 20%.

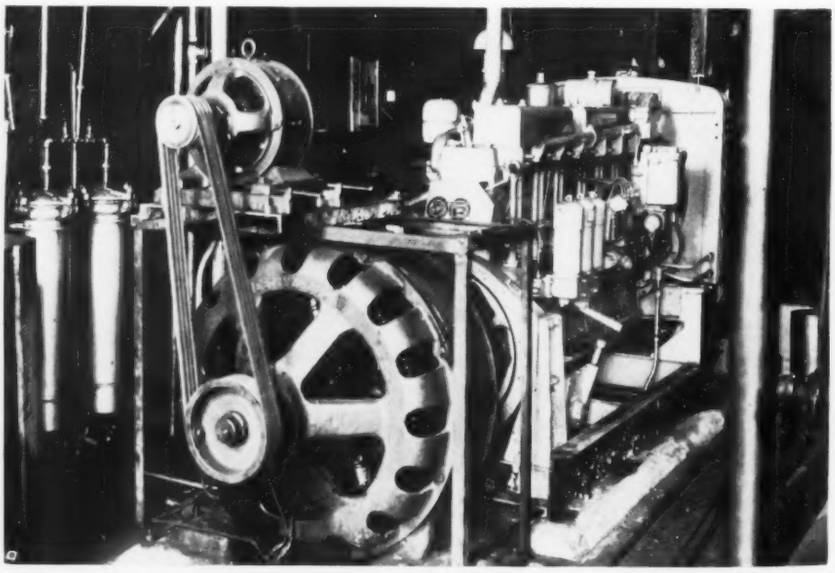
These lamps are recommended also for any process requiring high temperature, such as producing of water-repellant cloth with Zelan or in the setting of synthetic resins and other compounds on fabrics for the purpose of developing crease-resistance and for otherwise imparting special finishes to fabrics.



Heavy-duty batcher (Birch Bros.)

Heavy-Duty Batcher

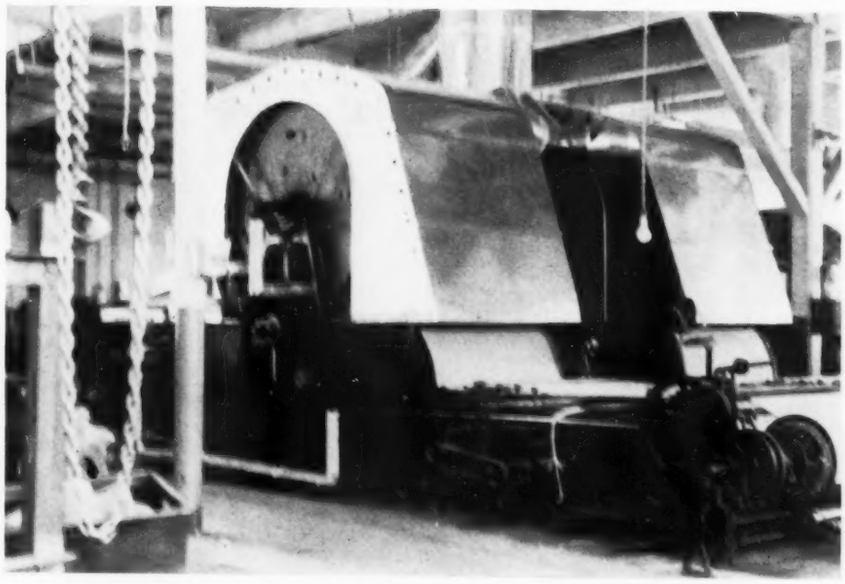
A heavy-duty, two-roll rack-and-pinion batcher has been introduced recently by Birch Bros., Inc., 32 Kent St., Somerville, Mass. This batcher is designed particularly for heavy materials, such as duck, burlap, and other fabrics desired in large rolls. It is suitable for use in cotton finishing plants, woolen and worsted mills, felt mills, etc., in connection with tenters, dryers, padders, calenders, and other open-width equipment.



CATERPILLAR DIESEL powered electric set recently installed by Sellers Mfg. Co., Saxapahaw, N. C., to drive 12,000 cotton spindles, 5,000 silk spindles, lights, and auxiliary equipment in mercerizing plant

Cleaner for Precipitrons

A new development of interest to textile manufacturers described in the January issue of *Engineering Progress*, published by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., is a semi-automatic device which cleans Precipitrons with a brief service interruption to only a small section at a time. A 100-cell array of Precipitrons is divided into five 20-cell sections. The section to be cleaned is disconnected from the ventilation system and from the power supply, and the new cleaning device is rolled in front of it. The cleaner has a motor-driven carriage that sweeps slowly up and down in front of the dirty precipitator plates. The carriage has three horizontal rows of nozzles from which water, air, and oil are sprayed in turn over the plates. The operation then stops, having lasted but 30 min. All the operator needs to do is to start it and a half hour later return and move it to the next section.



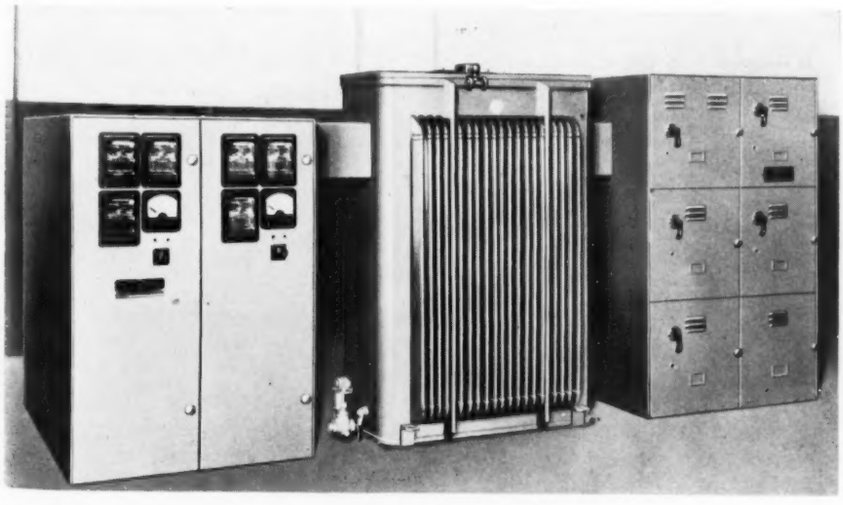
Slasher with one 7-ft. and two 5-ft. cylinders (West Point)

Power Distribution System

A new method for distributing low-voltage electric power in industrial plants has been announced by General Electric Co., Schenectady, N. Y. This system, known as load-center distribution, is said to offer several advantages over the older method of distribution through a single large substation. It is particularly recommended at this time for installation in new plants or plant extensions necessitated by the war program. Load-center power distribution is characterized by two basic principles: (1) Power is distributed at high voltage to unit substations located near the load centers. There it is stepped down to utilization voltage and distributed to the loads via short secondary feeders. (2) Where the load requires it, two or more small unit substations are used rather than a single, large substation.

Among the advantages cited for the system are: (1) lower first cost; (2) conserves materials for war needs; (3) better performance of electric equipment; (4) greater flexibility; (5) reduced design and planning expense; (6) simplified purchasing; (7) easier, quicker installation; and (8) higher salvage value.

The basic equipment in the system consists of unit substations, metal-clad switchgear, and cable. The unit substation is compact, properly coordinated, factory-built unit, consisting of a metal-inclosed incoming line section, a Pyranol transformer section, and a low-voltage feeder section with draw-out air circuit breakers.



Indoor-type unit substation (G.E.)

Improved Slasher Design

To permit higher yarn speeds in cotton slashing, West Point Foundry & Machine Co., West Point, Ga., has recently changed the design of the slasher center frame. With the new design, it is possible to equip slashers with three cylinders—one 7 ft. in diameter, and two 5 ft. in diameter. By placing the 7-ft. cylinder on top of the two 5-ft. cylinders which are placed in tandem at the bottom, and by mounting on journals in ball bearings, the combination makes an easy-running, compact unit. With contact rolls, the arrangement develops about 215 sq. ft. of drying surface in contact with the yarn, which is much more than on a standard two-cylinder slasher.

Useful Accessories for Textile Mills

The Scanner—consisting of a light source and two photo-tubes in a single, compact, housing—has been announced by United Cinephone Corp., Torrington, Conn. It is designed for use wherever photo-electric control is desired from a reflecting surface 2 in. or less distant from the unit. It eliminates the need for separate photo-tube and light source assemblies.

A floor treating compound, known as Colorflex-Plus, has recently been announced by Flexrock Co., Philadelphia. It consists of a cleaner and dye-like coloring. The cleaner conditions floors by removing dirt, grime, and grease, and neutralizing the excess alkalinity in concrete. The dye-like

coloring penetrates and colors either concrete or wood floors. The color is said to be long lasting, and able to withstand continuous heavy industrial traffic, as it uses the strength of the floor itself for wear resistance.

A motorized roll grab has been developed by Cleveland Tramrail Division of Cleveland Crane & Engineering Co., Wickliffe, Ohio, for use with its over-head materials-handling systems. The grab will handle rolls from 16 in. minimum to 60 in. maximum diameter in lengths up to 72 in. and weights up to 5,000 lb. All motions are motorized.

An indicating lamp for general indicating or signal purposes on switchboards, control desks, and panel boards, has been announced by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Known as the Minalite, the lamp has a rectangular-shaped lens designed for extreme angular visibility. The receptacle is made of one-piece molded material and is said to be suitable for mounting on panels 1/16 to 2 in. thick. Resistors as part of the unit are used for line-voltage ratings between 50 and 250 volts.

An infra-red heat lamp, said to be the first commercial type of radiant heat lamp to make possible 100% control of heating efficiency, has been developed by Wabash Appliance Corp., 335 Carroll St., Brooklyn, N. Y. The new bulb is designed to put "spilled heat" to practical use, even when present reflector equipment is used.

New Dyes and Chemicals

Lubricant and Binders for Rayon Hosiery Yarns

Two new products for use in preparation of rayon hosiery yarns have been announced recently by Hart Products Corp., 1440 Broadway, New York. The first, Hartex rayon oil, is a lubricant and softener for use in the throwing and knitting of rayon hosiery yarn. It is stated that it is easy to apply, provides even thickness of oil film, washes out freely, promotes good knitting, and aids level dyeing.

The second product, Adhesonol, is a synthetic resin which acts as an effective binder for high-twist yarns. It is said to provide added strength, elasticity, and sheerness; to be easy to use; to require no special handling; and to have no effect in dyeing operations.

Ammonium Sulphamate for Flameproofing Textiles

Use of ammonium sulphamate as a fire retardant for textiles was described by Drs. M. E. Capery and W. E. Gordon, of E. I. du Pont de Nemours & Co., Wilmington, Del., at a recent meeting of the American Chemical Society. Introduced in November, 1941, by the Grasselli Chemical Department of the du Pont Co., ammonium sulphamate is expected to find wide application for flame-proofing fabrics, garments, draperies, etc.

It is stated that the treatment does not affect the appearance or feel even of the sheerest fabric. Cloth dipped in or sprayed with ammonium sulphamate solution—prepared in the proportions of 1 lb. of crystals to 1 gal. of water—will char when flame is applied, but will not burn. The salt has no tendency to crystallize on the surface of the fabric with ageing, and wide variations in temperature and humidity cause no efflorescence.

General Dyes

General Dyestuf Corp. announces the following new products:

Amido Brilliant Red BBA, an acid dye producing very bright red shades of good fastness to light.

Katigen Yellow BG Extra CF, a sulphur dye producing a clear, greenish shade of yellow; it is the only Katigen Yellow which retains its greenish cast when aftertreated with potassium bichromate and acetic acid; dyeings possess good fastness to water, perspiration, and hot pressing; and very good fastness to washing.

Moth Protection

Interest in moth protection on the part of manufacturers of wool products has greatly increased during recent months, it is reported by Merck & Co., Inc., Rahway, N. J. Indicative of this is the fact that more than half a million blankets treated with Amuno—a compound made by Merck for treating wool to protect it against attack by moths—were sold last year by J. C. Penney Co., Montgomery Ward, and department stores throughout the country—an increase of 37½% over 1940. Concern about moth protection is attributed to sharp curtailment of wool for civilian goods, and Government propaganda regarding the necessity for wool conservation. The growing importance of reused and reprocessed wool—use of which is not as yet restricted—is also said to be a factor, because fabrics containing these fibers, according to the Merck report, are more vulnerable to attack by moths and carpet bettles than are new or virgin wool products.

Throwing Rayon Hosiery Yarns

Oscar Heineman Corp., Armitage, Fairfield, & Washtenaw Aves., Chicago, announces that it is now processing high-twist rayon hosiery yarns with the new special finish, Avconit No. 1, developed by American Viscose Corp., and described in the February issue of TEXTILE WORLD. In making this announcement, Oscar Heineman Corp. states: "It is now generally believed by the hosiery trade that in order to produce a stocking which will give satisfactory wear and meet with consumers acceptance both from a quality and style standpoint, it is necessary to use high-twist rayon. . . . However, there seems to be a difference of opinion among hosiery manufacturers as to the number of turns of twist the yarns should contain in the various deniers in order to give the best possible results. Although it is up to the individual manufacturer to decide what twist will most satisfactorily meet his particular requirements.

"Our recommendations for leg yarn processed by the Avconit method are as follows: 65 den., 35/45 turns left; 75 den., 30/40 turns left; 100 den., 25/35 turns left; 125 and 150 den., 20/25 turns left.

"We do not hesitate to state that the maximum twist as outlined above will give best results from a fabric standpoint, although the minimum twist as outlined above will give best results from a production standpoint. However, satisfactory results can be had by using any twist between the minimum and maximum.

"For welt yarns our recommendations are as follows: 150 den., 10-turns left; 125 den., 10/12 turns left; 100 den., 10/15 turns left.

"If higher twists than recommended are used for welt purposes, there is a possibility of trouble developing in getting the welts to break evenly at the picot."

Oscar Heineman Corp. points out that

only unoiled rayons can be processed with Avconit. It also recommends that, if possible, the rayon be delivered in skeins. This eliminates the extra cost of reeling and, at the same time, reduces the possibility of broken filaments due to extra handling. Avconit must be applied to yarn in skeins; and, when yarn is received on cones, it is necessary to reel from cones into skeins.

New Publications

Helps in Human Relationship

THE FUNDAMENTALS OF INDUSTRIAL PSYCHOLOGY, by Albert Walton, Ph.D., McGraw-Hill Book Co., Inc., New York; $2.00.

This volume is one in the Industrial Series written by the staff of the Pennsylvania State College for use in industrial extension classes. But it need not be confined to the textbook group for supervisors in industrial plants. It is interesting reading, and should be of particular interest to the business executives who must remember that human relationship is the most important element in business and industry.

Industrial psychology is recognized today as the underlying governor of production efficiency. It has followed upon the heels of the old system of efficiency engineering. The efficiency experts came into disrepute through ignoring important psychological factors, and the psychologists are now attempting to solve the problems which the engineers raised. All of these problems are carefully analyzed in this little volume and some broad case histories are reviewed in explanation of their solution.

It would be a profitable experience for any busy executive to take a copy of this book home some night, and then after he has read it, return it for the handbook shelf of his mill overseers.

Good Foremanship

FOREMANSHIP FUNDAMENTALS, by A. L. Kress; McGraw-Hill Co., Inc., New York; $2.50.

Good business is built on good management—and good management is as essential down the line as in the chief executive office. The able executive realizes that correct fundamentals of management are not God-given talents which a chosen few foremen may have, but that they represent definite lines of study and application open to any man of intelligence. In that case he wants his foremen to read "Foremanship Fundamentals."

This is the best handbook on the art of managing people that has come our way. It probes deeply into the personnel problems which the average foreman is apt to have, and in a simple, straightforward manner tells how the problem can be avoided, or at least disposed of. The main objectives of any industrial department—getting out the day's work on time, maintaining quality, keeping costs down, and improving methods—all hinge upon the overseer's ability to get the best results with the least friction from the workers who make up his bailiwick. How this can be done is taken up in chapters which discuss jobs, wages, labor practice, safety campaigns, and production organization. Throughout each chapter practical, simple, concrete examples of the problem and its solution are set forth in a readable and yet an authoritative manner.

This really excellent book should be highly recommended to all industrial foremen. It is particularly applicable now to problems of foremen in the textile industry who, finding their industry under the great stress of war production, need all the sound personnel-management advice they can get. By knowing how to avoid personnel problems, many man-hours may be saved at this time when each man-hour is worth ten a year from now.

A New Day in Fashiondom

WHY IS A DRESS?; by Elizabeth Hawes; The Viking Press, Inc., New York; $2.00.

When Miss Hawes stuck in her pencil and pulled out "Fashion Is Spinach" she brought forth the first rays of a dawning day in the fine art of creating clothes. Now that her pencil has been sharpened for the third time, we find the finer-point result defining in a very specific way how and why the traditions of fashion creation will change. "Why Is a Dress?" is ostensibly a career book for budding professional designers but many of the Hawes "tips" can be taken to heart by any woman. It makes this reader's feminine mouth water in anticipation of the time when she writes so that "all American women 'will know how to select' (as well as 'may have') beautiful clothes."

As in previous writing, the Hawes style is strewn with "I-do-it-this-way-but - I'm - prejudiced-so-you-do-it-your-way-but-for-heaven's-sake-do-it!" Originality and realism mark this thoughtful analysis of how "head, hand and heart" must combine in tomorrow's successful fashion creators. Designing and producing will walk hand in hand down the none-too-easy street to "beautiful clothes for all women."

Textile folks will be interested in these Hawes prognostications: "New materials are being invented every day—for everything but clothes. They will be taken over into the clothing field by imaginative people some day" and ". . . the material of which we have never heard, which is going to make up the clothes of the future, will be cast in molds instead of sewn . . . an electric ray will turn it any color you want in a moment's time."

1941 Cotton Year Book Issued

1941 COTTON YEAR BOOK; New York Cotton Exchange, Alston H. Garside, economist, New York

During the season of 1940-41, the cotton business of the entire world was conducted under conditions greatly different from those in any previous season, according to a review of the 1940-41 season contained in the fourteenth Cotton Year Book of the New York Cotton Exchange just issued. Consequently, cotton prices were subjected to very unusual factors.

Most of western Europe was isolated by war throughout the season, and so consumption of the staple in that part of the world was greatly reduced. In Japan, also, consumption fell off sharply because of war conditions. On the other hand, consumption in the United States, India, and Canada was raised to a level far higher than any previously recorded. Exports by the United States were cut down to the lowest levels since the American Civil War, chiefly by the closure of large foreign markets and the extraordinarily wide disparities between domestic and foreign prices for the staple. The movement of cotton between foreign producing and foreign consuming countries was greatly restricted by shortage of shipping and difficulties in exchange.

Prices of cotton in the United States were nearly doubled during the season, partly because of a short supply in trade channels in the latter portion of the season, partly in consequence of broadly operating inflationary forces growing out of colossal war expenditures, and partly as a result of Congressional action in providing by law for much higher loan rates on the 1941 crop.

These and other significant changes during 1941 are recorded statistically in this year book.

News of Suppliers

Draper Corp., Hopedale, Mass., has elected Walter M. Mitchell, salesman in the Atlanta territory in charge of the warehouse there and with the concern for 20 years, as member of the board of directors. Carl B. Stowers, with Draper for 38 years and assistant purchasing agent for three years, has been named purchasing agent.

Emmons Loom Harness Co., Lawrence, Mass., and Charlotte, N. C., announces that Clifton E. Watson has been extended a leave of absence in order to take a position with the textile machinery division of the War Production Board. Mr. Watson is manager of southern sales. George Field, manager of the Charlotte Division, and William Taylor, superintendent, will carry on in Mr. Watson's absence.

M. E. CARLISLE, who has been appointed general purchasing agent of Pittsburgh Plate Glass Co., succeeding J. A. Bechtel, who retires after 50 years with the company. Mr. Carlisle has been assistant purchasing agent since 1929.

Crompton & Knowles Loom Works, Worcester, Mass. — John F. Tinsley, president of the company and a director of New England Telephone & Telegraph Co., Boston, has been elected a member of the executive committee of the latter company's board.

E. I. duPont de Nemours & Co. has appointed Charles L. Wiswall, who has been director of sales of the R. & H. Chemicals Department since 1933, to be assistant general manager of the newly-created Photo Products Department, effective Feb. 15. Samuel C. Harris, assistant director of sales of the R. & H. Department, succeeds Mr. Wiswall.

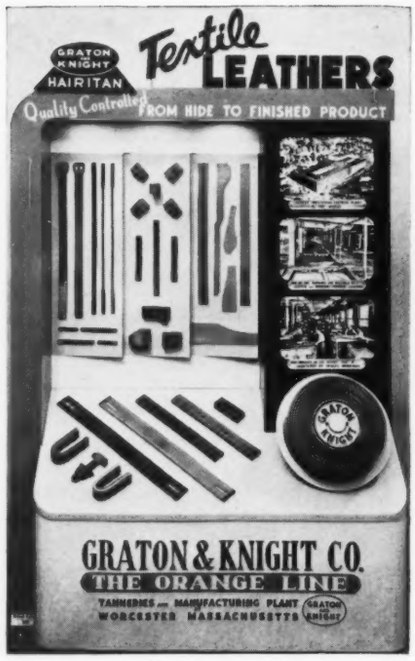
Dyestuff Manufacturers Industry Advisory Committee has been added to the Bureau of Industry Advisory Committees of the War Production Board. Dr. Arnold L. Lippert of the Textiles, Clothing and Leather Goods Branch of the WPB has been designated Government presiding officer. Committee members are: A. R. Chantler, E. I. duPont de Nemours & Co.; E. K. Halback, General Dyestuff Corp.; S. C. Moody, American Cyanamid Co.; Dr. H. B. Marshall, Ciba Co.; Jack Crist, Southern Dyestuff Corp.; T. Thomas Roberts, Arnold Hoffman & Co.; C. M. Richter, Pharma Chemical Corp.

B. F. Goodrich Co., Akron, Ohio, has appointed John R. Hoover as manager of synthetic sales, succeeding Dr. H. E. Fritz, who was recently named company director of research. He had been manager of rubber-lined equipment sales since 1935 and is succeeded in that post by Herman C. Klein.

Acme Steel Co., Chicago, Ill., is pointing out to its customers that steel strapping is interpreted by government authorities as "operating supplies" and as such carries a rating of A-10 under Preference Rating Order P-100. Because this order forbids the application of the rating to "non-ferrous material to be used as packaging supplies," there has been some misunderstanding to the effect that steel strapping could no longer be obtained. This is not so, as steel strapping is "FERROUS" material and therefore is eligible to receive an A-10 rating.

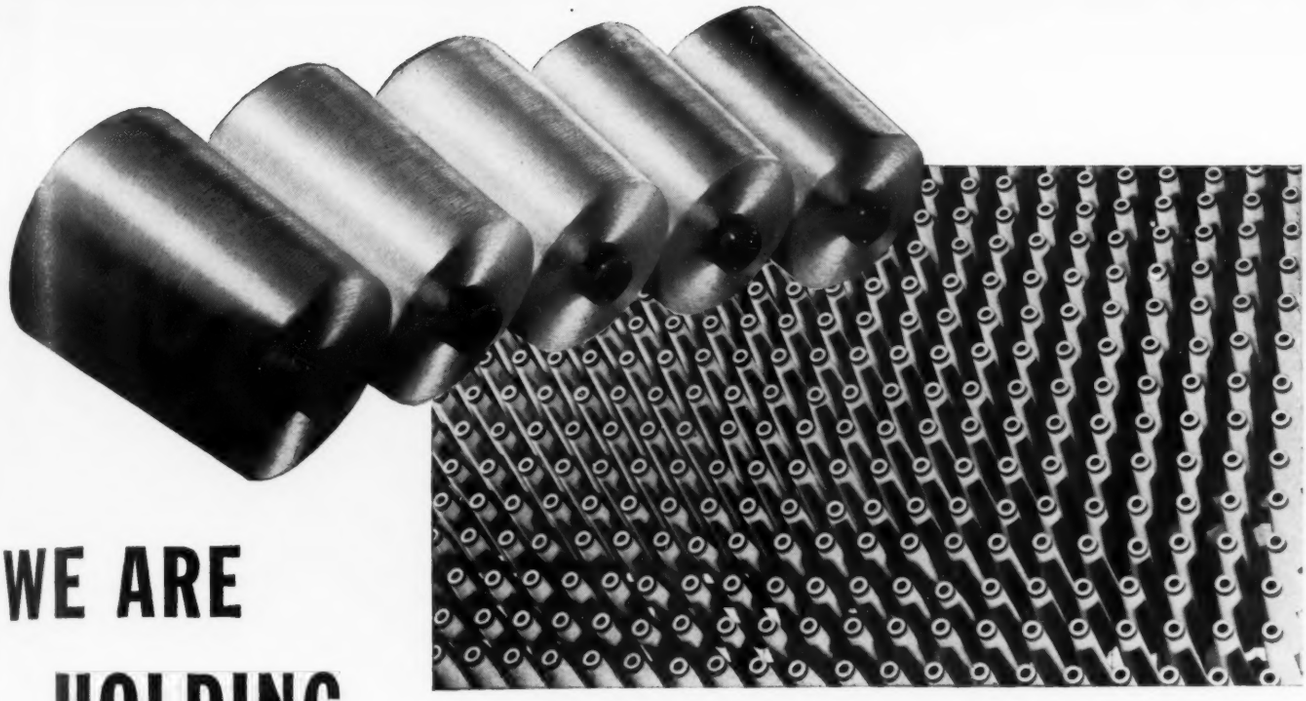
Mathieson Alkali Works, Inc., producer of bleaching agents and other chemicals used in the textile industry, is observing its 50th anniversary. The company was incorporated in Virginia in 1892. With plants in Saltville, Va., Niagara Falls, N. Y., and Lake Charles, La., Mathieson is one of the major producers of alkalies, chlorine, synthetic ammonia, and numerous other products. At present, all three plants have been geared to maximum production to supply chemicals necessary to the war effort. Half a century ago, all the bleaching powder and most of the alkali consumed in this country were imported from England. To insure a product equally as good, construction and initial operation of the new company's plant were entrusted to a retired English alkali manufacturer, Neil Mathieson, who sent a son, Thomas T. Mathieson, to this country and under the latter's supervision a plant was built at Saltville, Va. About that same time, Mathieson obtained control in this country, of the Castner electrolytic cell for the manufacture of caustic soda and chlorine; and, to obtain cheap power, a plant was constructed at Niagara Falls, N. Y., where production began late in 1896. Other notable Mathieson accomplishments include commercial production of synthetic ammonia in 1923; development of a true calcium hypochlorite as a new chlorine carrier in 1928; development of sodium chlorite as an improved bleaching agent for textiles and other materials in 1939.

MAX W. BABB, lately president of Allis-Chalmers Mfg. Co., who has been named chairman of the board.



GRATON & KNIGHT CO., Worcester, Mass., has designed the above illuminated display case for use in its distributors' showrooms. It stands 6 ft. high and shows the "Orange Line" of textile loom leathers featuring G & K's Hairitan leather. Samples of the principal leathers used in a modern weave room are mounted on panels.

Fidelity Machine Co., Philadelphia — The senior inventor of this company Walter Larkin, is to be awarded a certificate of merit by the Franklin Institute of Philadelphia. The committee makes the award "in consideration of his admirable machine designing, involving the ingenious application of known mechanical movements to the invention of circular knitting machines of special types." The Medal Day Exercises will be held in the Hall of the



WE ARE HOLDING THE INITIATIVE

Ten years ago SONOCO started an expansion of their production facilities—with the idea that ample and more efficient equipment would help to lower cost . . . and, if the demand increased they would be prepared—

The demand has increased—doubled and redoubled far beyond original expectations, but—

. . . We continue to hold the initiative in our battle for production.

Buy for normal needs and SONOCO will be able to meet your demands.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

"TIMKENETTES," eight girls from the Timken Roller Bearing Co.'s plant at Canton, Ohio, who helped the company sell $36,417 in Defense Savings Stamps in a four-day campaign. These girls were costumed in specially designed red, white and blue outfits and sold Defense Savings Stamps on the streets, in offices and delivered them to residential districts in Canton. They also were used in promotion over the radio.

Franklin Institute in Philadelphia on Apr. 15. Mr. Larkin's inventions of particular textile interest include the five-color yarn-selector and knot-tyer, the Universal ribber, the non-vibrating dogless attachment for circular ribbers, the multi-design jacquard circular rib knitting machine using 120 yarns or colors vertically and 5 colors horizontally, the triple-head weatherproof wire-covering machine.

Crocker-Wheeler Electric Mfg. Co., New York, has appointed Donald T. McDonald as manager of sales promotion and publicity, a newly created department established as the basis of a broad scale program of post-war planning. Before joining Crocker-Wheeler in 1941, Mr. McDonald was with the Westinghouse Electric & Mfg. Co.

Manhattan Rubber Mfg. Division, Raybestos-Manhattan, Inc., Passaic, N. J.—Harry E. Smith, general manager of this division was elected a member of the board of directors of the Rubber Manufacturers Association recently. He replaces F. L. Curtis, former general manager of the Manhattan Division, whose resignation from the board was accepted with regret.

Hinde & Dauch Paper Co., Sandusky, Ohio, has put out the first number of its new house organ. "The Package Laboratory News" will be published by the H & D Package Laboratory in collaboration with H & D mills and factories throughout the United States and Canada. Aimed at giving manufacturers helpful, authoritative news of corrugated packaging developments to the end that packaging may be made more efficient, more economical, more effective, the publication will be a clearing house for information.

Jay J. Merlein Co., New York, maker of advertising identification, has appointed Richard C. Urban to have charge of promotion and sales. Mr. Urban has resigned his 12-year connection with North American Rayon Corp. and has acquired an interest in the Merlein company.

Monsanto Chemical Co., St. Louis, Mo., has formed the "Monsanto Share-Your-Car Club" among employees of its 14 plants and 10 branch offices, designed to pool transportation and thus conserve tires and equipment.

Hyatt Bearings Division, General Motors Corp., Harrison, N. J., has appointed R. H. Cramer as factory manager. Formerly assistant factory manager, he succeeds C. P. Millard who has resigned.

Pomona (Calif.) **Pump Co.** has purchased the Westco Pump Division of Micro-Westco, Inc., Bettendorf, Iowa. The newly acquired business will be operated as Pomona Pump Co., Westco Division, at 2621 Locust Street, St. Louis, Mo. and manufacture will be continued from Pomona's St. Louis plant. Management and key personnel of Westco will be transferred to St. Louis.

Caterpillar Tractor Co., Peoria, Ill—Henry H. Howard, manager of Caterpillar's engine sales division, has been called to Washington to take up temporary war-time duties in the War Department. His duties and responsibilities will be assigned for the period of his absence to Horace W. Smith, assistant manager of the division.

MacFarland, Aveyard & Co., Chicago, have appointed E. W. Frank as production manager. He had been with Lord & Thomas for 20 years and until Dec. 31, was chief of the production department.

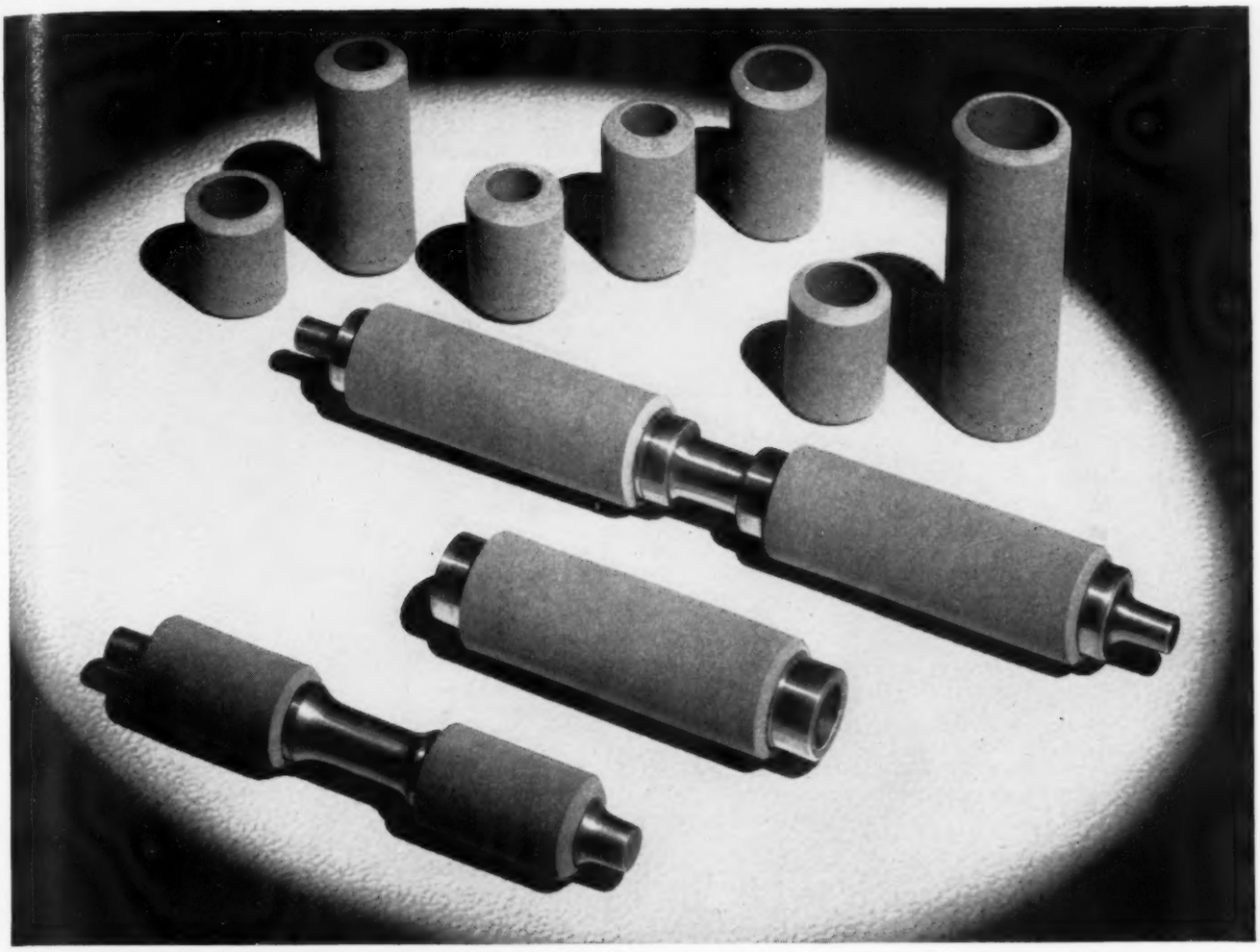
Wickwire Spencer Steel Co., New York, has appointed John A. Bigelow as plant protection engineer. He will supervise protection of the company's seven plants located in Buffalo, N. Y.; Worcester, Clinton and Palmer, Mass.; Mt. Wolf, Pa. and Blue Island, Ill., including maintenance of employment records and employee identification.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., have appointed Albert A. Haniford to their sales department to extend their program of sales training for company salesmen.

Atlanta Chapter, P.T.C. Meets

Atlanta (Ga.) Chapter of the Power Transmission Council was addressed by J. Edgar Rhoads, sales director of J. E. Rhoads & Sons, Philadelphia, at its regular meeting Jan. 30. Mr. Rhoads, who has been spending a large part of his time in Washington in connection with the affairs of the American Leather Belting Association, of which he is one of the directors, spoke at length of the difficulties of doing business under the present conditions; the necessity of cooperating fully with the Administration in Washington; the need of greater production in all industries related to the war program; and drew some lessons from his observations in Germany just prior to the invasion of Czecho-Slovakia. Some 40 members and guests were out for the meeting, and many of them engaged in the lively discussion that followed the talk. Homer Bond of U. S. Rubber Products Co. spoke briefly on the situation in that industry. Ingram Dickinson of Southern Belting Co. is president of the Atlanta Chapter, P.T.C.

J. EDGAR RHOADS who addressed the Atlanta Chapter of the Power Transmission Council



THESE COTS LAST LONGER
and can be rebuffed 3 to 4 times!

That's one reason why 40% of today's active spindles are equipped with Armstrong's Cork Cots

WARTIME'S increasing production load makes the importance of *long-wearing* equipment greater than ever. That's why hundreds of mills are thankful they're spinning on Armstrong's Seamless Cork Cots. For these efficient roll coverings not only help to spin better yarn . . . they *last longer.*

The *initial* life of Armstrong's Cork Cots is longer than that of ordinary coverings. Moreover, you can *rebuff* each cot three to four times—make it like new—for as little as ½¢ per rebuffing! Mill operators find that these advantages mean greatly lowered maintenance costs. But that's not all!

The superior physical properties of Armstrong's Cork make it possible for mills to run at peak efficiency—with minimum loss of production due to end breakage, eyebrowing, clearer waste, and top roll laps. Cork's high coefficient of friction produces uniform drafting with minimum slippage. The result is a stronger, more uniform product.

Take advantage of the facilities of our sales, research, and engineering departments. Armstrong Representatives are on the road as usual and will be glad to give you the benefit of their specialized experience. Armstrong Cork Company, Textile Products Section, 927 Arch St., Lancaster, Pennsylvania.

ARMSTRONG'S CORK COTS

ACCOTEX COTS **ACCOTEX APRONS**

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Dyes and war are considered in several bulletins issued recently by Calco Chemical Division, American Cyanamid Co. Calco Technical Bulletin No. 632 gives data on cotton textile items for war use; it includes list of important Government specifications, basic procedures for processing, and equipment required for various processes. Another bulletin describes the dyeing of dark blue covert cloth for Army nurses' uniforms. Technical Bulletin No. 618 discusses the dyeing of fabrics for blackout purposes. A fourth bulletin considers priorities and the dyestuff industry.

Methods of increasing production with Vari-pitch speed-changers are described and illustrated in a new bulletin B6013A, issued by Allis-Chalmers Mfg. Co. Bulletin includes diagrams, operating data, and selection tables on speed-changers in sizes handling from 1½ to 75 hp.

A corrosion-resistant material known as Worthite is described in a bulletin issued by Worthington Pump & Machinery Corp. Bulletin lists general properties of Worthite—a high-nickel, high-chromium, molybdenum, low-carbon, alloy steel containing less than 50% iron. Also given are applications of this material in construction of corrosion-resisting equipment of various types, together with a list of corrosive solutions which may be handled by Worthite equipment.

Fabricated insulation for industrial and other uses is discussed in an illustrated booklet issued by Reynolds Metals Co. The material, known as Reyn-O-Cell, is produced from cotton fibers and is processed to be flameproof and fire-resistant. Booklet lists properties of the material and illustrates various forms in which it is available.

Glass and its adaptability to modern needs as a substitute for metals and other materials which are scarce are discussed in a brochure published by Pittsburgh Plate Glass Co. Various types and forms of glass are described and applications for each are listed.

Variable speed control as a means of increasing production of various types of equipment is discussed in a circular issued by Reeves Pulley Co.

Controls for industry are described in folder F-1695 issued by Barber-Colman Co. The folder contains condensed data sheets describing motor-operated valves for steam, air, oil, gas, water and other fluids; control motors; thermostats; program controllers for sequence operations; and application of electric control to many industrial applications.

Precision instruments of both electrical and mechanical types are described in List CEC issued by Cambridge Instrument Co., Inc. Among the instruments described are CO2 and CO recorders, dissolved oxygen recorders, thermionic pH recorders for continuous records, moisture recorders, and moisture indicators for use in continuous processing.

Piece carbonizing, and fulling and scouring are described in two new booklets issued by James Hunter Machine Co. The booklet on piece carbonizing describes and illustrates continuous cloth range carbonizing equipment and methods. The booklet on scouring and fulling describes equipment and methods employed in textile mills for increasing fulling mill production, reducing fulling time, and cutting costs.

A history of the Johnson rayon warp sizer is begun in the February issue of *Rayon Warp Sizing Specialist*, published by Charles B. Johnson Machine Works.

Manufacture of rayon fabrics at Burlington Mills Corp. is described and illustrated in an article in the February issue of *Oilways*, published by the Esso Marketers.

An installation of Model 110 twisters by Guyan Mills is described and illustrated in the February issue of *Atwood Twists*, published by Atwood Machine Co. Included with this issue is an insert giving formulas for calculating spindle speeds and production per spindle per hundred hours.

Electric equipment of various types is described in recent publications of Westinghouse Electric & Mfg. Co. Parts for built-in universal motors are described in Booklet B-3094. Continuous ash discharge stokers are described in booklet B-3039. Generators of the a-c type for use for industrial emergency power are described in bulletin B-3028. Electric heating units and controls are described in the catalog 28-000.

Resources, power, transportation, industry, labor, and investment opportunities in North Carolina are discussed in a booklet issued by the Division of Commerce and Industry, North Carolina Department of Conservation and Development.

Sizing or soaking of rayon is discussed in an article in the January–February issue of the *Houghton Line*, published by E. F. Houghton & Co. Other articles in this issue discuss textiles in war times and wool oils.

A water-soluble mothproofing agent known as Eulan CN, is described in a leaflet issued by General Dyestuff Corp. Several formulas used in the application of the material to loose wool, yarn, piece goods, etc., are included.

A drum and barrel carrier is described and illustrated in a circular issued by Ernst Magic Carrier Sales Co.

Clutch applications for indexing, free-wheeling, and back-stop operations are described in bulletin K-6, issued by Morse Chain Co.

Coning of Nylon and rayon hosiery yarns is described in No. 31 of the series of leaflets, "Getting The Most From Winding," published by Universal Winding Co.

Combustion safety controls that guard against explosion hazards in industrial plants are described and illustrated in a recent publication of Wheelco Instrument Co.

Lubrication of pumps, chains, wire, rope, etc., by means of Lubriplate Nos. 130-A and 130-AA are described in the current issue of the *Lubriplate Film*, published by Fiske Bros. Refining Co.

Automatic testing of condensate in steam plants by means of a simplified signaling controller is discussed in Catalog N-95-163(1), issued by Leeds & Northrup Co.

Selection of paint of the proper type for specific purposes is facilitated by means of the Valdura Paint Selector, issued by American-Marietta Co. The selector gives data on properties of 43 paint, enamel, and varnish products. A chart lists various types of services, together with paints suitable for application to each surface. A second chart assists in selecting the most suitable paint.

How light can help win the war is discussed in a booklet issued recently by the Lamp Department, General Electric Co.

Traps for textile plants and reduction of fire hazards in textile mills by means of humidification are among the features of the January issue of *Armstrong Magazine*, published by Armstrong Machine Works.

Fluorescent lighting fixtures of various types are described and illustrated and prices are given in catalog 114, issued by DayBrite Lighting, Inc.

Steel scaffolding for above floor painting, wiring, machine repair, etc., is described and illustrated in a new catalog, "Safety Steel Scaffolding," issued by Mechanical Handling Systems, Inc.

Design and construction of the 34-capillary unit air conditioner which provides air washing, evaporative cooling, heating, and humidification is discussed in Bulletin U-34-2, issued by Air & Refrigeration Corp.

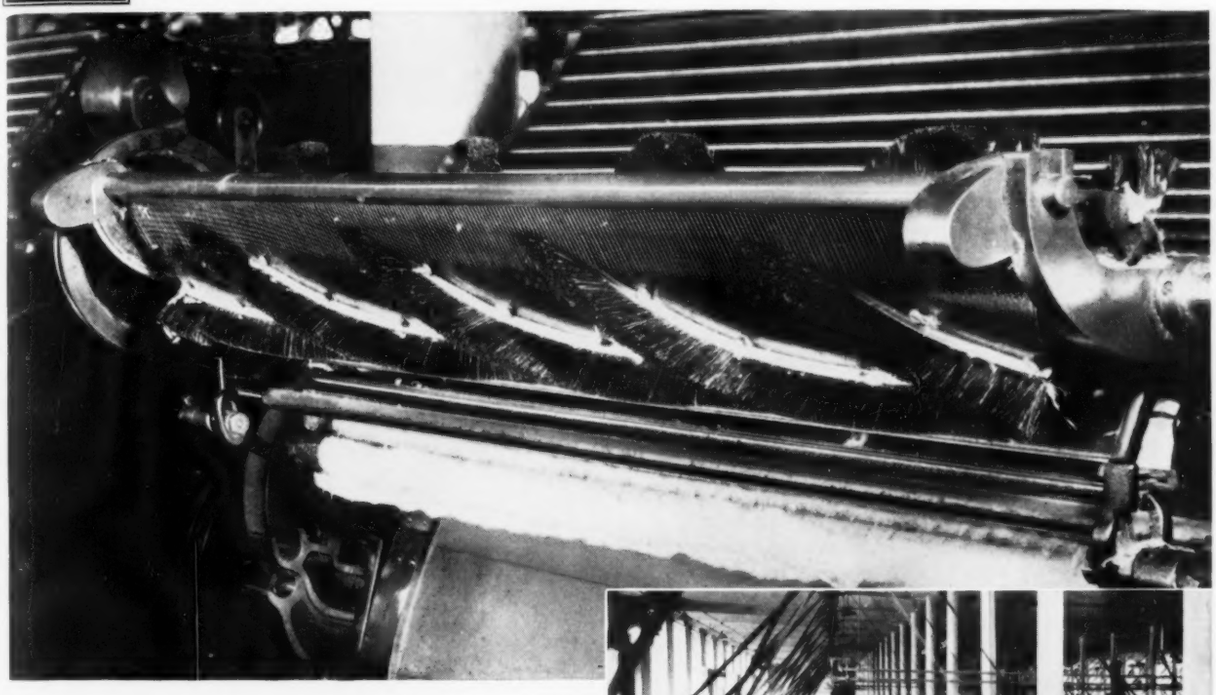
Stainless wire swifts are noted in the January issue of *Electromet Review*, published by Electro Metallurgical Co.

Treatment of process water in textile mills to prevent spots and streaks due to algae in the water supply is discussed in a booklet, "Keep A Weather Eye On Water Quality," issued by Wallace & Tiernan Co., Inc.

Effect of Government restrictions on use of metals is described in an article "What You May Expect from Draper Wartime Service," in the January issue of *Cotton Chats*, published by Draper Corp.

FULLERGRIPT BRUSHES

as applied to revolving flat-brushes on Cotton Cards



Mr. Carder, Your Own Maintenance Department Can Refill Your Brushes

JUST follow these simple directions:

Remove old brush core. Put it in a lathe. Trim off the old bristles and sand or turn surface to a suitable smoothness. Give it one or two coats of Shellac for hard, smooth surface.

While the core is still in the lathe, mark four evenly spaced spiral lines on the core. Then drill holes for screws and apply the four strips of bristles along the spiral lines. And it's done! Easy, Economical, Efficient.

Over 3000 Cotton Cards Are In Use Today With Fuller Replaceable Brush Strips

THE Fullergript principle, which packs bristles closely together from one end of a spiral to the other, allows no gaps to permit insufficient cleaning of the flat clothing. More thorough cleaning means better carding.

Brush Strips can be replaced quickly even by machine operators, without benefit of skilled mechanics. Both time and money are saved.

Notice the higher tufts at both ends of each strip. These reach the ends of the flats where there is no card clothing and keep them free of dust, oil and cotton wax. The purpose is to prevent formation of those gummy lumps which lift the flats away from the cylinder. Again, better carding.

OTHER TEXTILE-MILL BRUSHES

Yes, indeed, the Fullergript principle has proved successful in other textile-mill applications, to—thread-dresser brushes, worsted dabbing brushes, burr-picker brushes, finishing-machinery brushes, etc. Write us for details of any of these applications—including the cotton-card brush we have described on this page.

The FULLER BRUSH Company

INDUSTRIAL DIVISION, DEPT. 8C

3594 MAIN STREET - - - HARTFORD, CONN.

THIS IS NO. 32 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

WINDING BOBBINS OF GLASS YARN (No. 90 Winder)

While we feel that more experience is necessary before we can make definite recommendations, the following suggestions will be helpful to mills starting out to weave fabrics with glass yarn. The two principal objectives of these suggestions are:

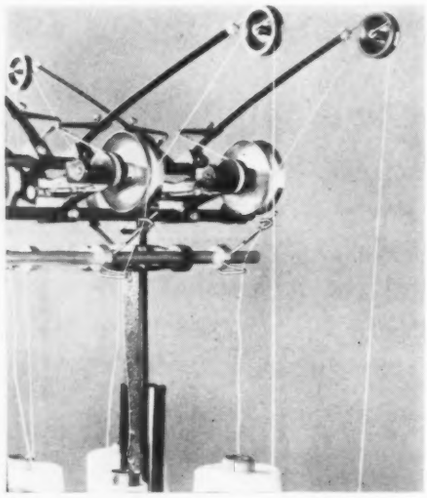
1. Elimination of friction that will cause *wear*, by passing the yarn, while it is under tension, over *revolving* contact points, rather than stationary.

2. Elimination of *static*, by replacing all fixed porcelain or glass contact points with *metal* or *revolving* contacts. Of course, a high percentage of humidity should be maintained in the winding room.

Tension

When winding overend from cones, the Controlled Rotating Disc Tension makes it possible to operate at higher speeds than with unrolling spools.

This tension consists of two discs, fixed face to face, around which the yarn makes one complete wrap. Tension draws the yarn into the bottom of the V slot, with the result that the discs turn with the yarn, without friction or chafing. The amount of tension applied is controlled by the band attached to the Compensator Arm; this acts as a brake on the discs when tension is released and the Compensator Arm goes up.



The discs rotate with the yarn, and tension is controlled by the strap attached to the Compensator Arm. (The guard around the Shelf Bracket prevents yarn ballooning off a full cone from striking the bolts and nuts.)

Bobbin Diameter

Due to the variation in tension between the barrel of the bobbin and the outside diameter, it is recommended that the full diameter be not more than twice the empty bobbin diameter.

WINDING BOBBINS FOR NYLON FABRICS (No. 90 Winder)

Uniform tension is vital for the successful winding of nylon yarns and minimum tension is desirable. Since nylon generates static when in contact with porcelain or glass, contact points should be metal.

Finger Tension

The regular steel Finger Tension has been giving good results. A maximum of twenty grams of tension is recommended to obtain a firm bobbin for satisfactory weaving.

Because of the minimum tension with which nylon is wound, it is important that the cord holding the tension weights be permitted to slide without friction over the pin or hook mounted on the Tension Bracket. Most No. 90 brackets have a wide casting to support this cord; this should be replaced with a finished pin or revolving collar to allow the cord to slide easily.

Thread Guide

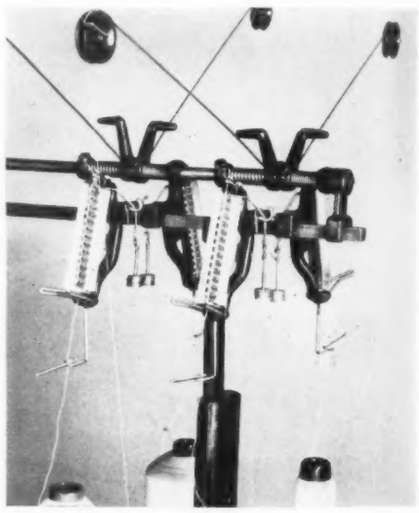
The Porcelain Thread Guide need not be changed, since, with overhead supply, the slight contact between yarn and guide is not enough to cause trouble. Underneath supply should not be used, because the additional wrap of yarn around the guide will create static.

Seven winds are recommended for nylon, with a spindle speed of 2250 to 2500 r.p.m. Full bobbin diameter should not be more than twice the empty bobbin diameter.

Better control of tension is obtained by winding from cones instead of from spools, since there is too much variation in tension from outside to inside of the spool (particularly when drawing from under the head).

Humidity

Nylon reacts critically to changes in humidity. Humidity should be as high as possible to reduce troubles due to static. Most mills are operating winding rooms with less than 65% relative humidity, but it will help to run with high humidity.



Some tension brackets have a porcelain guide directly above the tension. It is best to replace this by a metal pigtail guide similar to that shown in the photograph.

Better results in weaving and better quality of fabric can be obtained by letting nylon yarn stand for conditioning in a humidified area for a period of 18 to 24 hours immediately before winding. Finished bobbins should also be conditioned for 18 to 24 hours in the weave room immediately before weaving. Experiments can be made to determine the conditioning time that gives the best results.

See our Catalog in TEXTILE YEARBOOK

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

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*Reg. U.S. Pat. Off.

THE OVERSEERS' CORNER

LABOR TRAINING

A PETE AND BILL DISCUSSION

"Say, Bill," said Pete as he came into Bill's office and closed the door, "have you heard that the super has requested the Job Instructor Training Service* to give its course here at the mill? The first class will meet in the Community House at seven-thirty on Wednesday night."

"Why do we have to waste our time on such things?" said Bill in an annoyed tone. "I've been training employees for 30 years, and have my own system. Every overseer who is worth his salt can train his employees without the help of some busy-body Government agency."

"Don't you realize that things can no longer move along at the rate they did several years ago?" replied Pete. "We shall have to train an ever-increasing number of people in much less time than formerly. I don't know what your system is—it may be a good one—but I'll bet that you'll profit from the course. I happen to know that the procedure was worked out by two top-flight textile men, and that it is on a scientific basis. As I said before, I don't know anything about your own system, but I'll bet that in about 90% of the plants in this country the use of the new system will train better workers in much less time than the methods which are now being used. I'm all in favor of it."

Pete came into Bill's office and closed the door

"Well, if I had my way, I'd forget all this monkey-business and really bear down on getting out production," stated Bill confidently as if he had at last found the clinching argument.

"A good idea," said Pete, as he opened the door to leave, "but what'll happen to production if your employees are badly trained?"

"Now you're getting personal . . . ." blustered Bill, but Pete had already closed the door behind him.

*See story on page 104.

Should textile mills make use of the Job Instructor Training Service?

Letters from Readers

No!—No Presents For Overseers

"Xmas Presents For Overseers" Pete & Bill, Dec., 1941

Editor, Overseers' Corner:

In regard to the Pete and Bill argument about the advisability of overseers accepting gifts from employees, it is my contention this is not always an advisable thing to do. On many occasions employees donate toward a gift not because of any exceptional feeling toward the boss, but for the simple reason that they do not wish to be classed as "cheap."

Nothing can alter the fact that certain employees sometimes feel that they have the overseer at a disadvantage in such situations, and in off-hand ways try to take advantage of it as a medium for their own gain. This, of course, must necessarily put the overseer on a spot—a spot that it might be difficult for him to wiggle out of unless he has no conscience.

Again, it is hard for a foreman or overseer to refuse a gift that seems to have been purchased in the spirit of the day, so it is up to the powers-that-be to see to it that nothing like this transpires. One of the best methods I know of is to post a notice just before the holidays, saying that foremen and overseers will not be allowed to accept presents from employees. This might sound harsh at first reading, but in the long run it relieves the situation to the point where everyone can get over it quite gracefully and be just as happy at the beginning of the new year.

It is our contention that there are times when it is just as embarrassing for the boss to receive a gift as it is for the employees to donate; so with the no-gift rule in effect, employees can expect no favors and the overseer can be himself and not feel a sort of pang when

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you—contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

he has to call any employee to task for infraction of shop rules or inferior workmanship.

O.S.C.
(*Georgia*)

All Should Join Some Defense Organization

"Volunteering for Civilian Defense"
Pete & Bill, January, 1942

Editor, Overseers' Corner:

I always watch for your Pete & Bill Discussions and this month it interests me more than ever.

I work from 55 to 60 hours every week and I belong to the Auxiliary Fire Department, having joined just two weeks ago. I joined so I will know what to do when, and if, we have an air raid. I have heard some fellows say that if they see a bomb, they will run like the dickens, but if we all felt that way, we would have a lot of trouble if bombs ever are dropped.

I believe that every good American who has a few hours to spare should join some defense organization.

GEORGE NOVAL
(*Lowell, Mass.*)

Overseers' Practical Helps

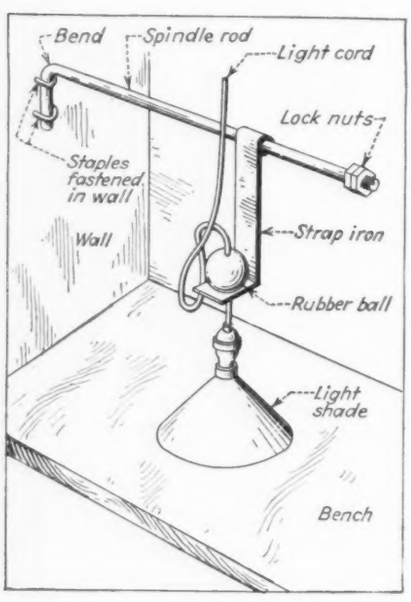
Bench Crane Light Holder

The workbench light shown in the illustration operates on the crane principle and is a handy light for fixers. In the majority of instances throwster- and weave-room fixers have but one light to illuminate a fairly large size bench; at one end may be affixed a vise, at the opposite end a grinder, and for close work one light is inadequate for the purpose. By following the details on constructing this light holder for a weave room, fixers or mechanics in other textile plants can adapt the suggestions, with a few alterations, to their own needs.

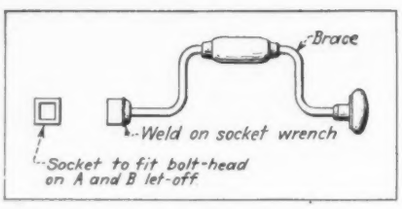
Bend a loom spindle-rod as shown, and thread it on one end. The bent end fits snugly into the bracket made from two heavy staples. Shape a piece of strap iron or a long hinge so that one end fits over the rod, and drill a hole through the lower end for the light cord to fit through. The socket, shade and light are attached later. An adjusting rubber ball, placed on the cord to hold the light at the height desired, fits above the hole to prevent the light dropping or being held in but one position; adjustment for height can be made by pulling the cord through the hole in the ball.

One can readily see that the rod can be swung in a wide arc to position the light, while the strap iron holder allows it to be extended over a wide area by sliding in or out the length of the rod. The lock nuts placed on the threaded end prevent the iron coming off.

H.E.W. (*Pennsylvania*)



Bench crane light holder



Speed wrench for spring-tension let-off

Speed Wrench for Spring-Tension Let-Off

The changing of tensioning springs on certain spring-tension let-off motions, for reducing or increasing warp tension, frequently is a tedious job when an ordinary wrench is used. To lessen this task, making the job easier and faster, a speed wrench can be fashioned from a wornout drill brace as shown in the illustration.

When a brace is discarded due to a broken or damaged chuck, (or if desired, a cheap brace can be purchased for the purpose) twist the chuck loose, or cut the shaft off directly behind the chuck head. To this end weld a large-size socket wrench into place; the socket should be of the double type, using the smaller socket end for the weld. The large socket opening must be of proper size to fit the adjusting bolt-head of the let-off. This speed wrench makes the changing of tensioning springs into a quick job—a matter of seconds. If such a wrench is made, and used for several different sections, the tool should be kept in a handy place close to the central working area, and after each use it should be returned to the same place.

H.E.W. (*Pennsylvania*)

Girls Wear Uniforms

Knitting mill finds advantages outweigh disadvantages

By ALFRED H. WESSLEN
Industrial Engineer, Ware Knitters, Inc.

GOOD ARGUMENTS can be presented for and against the wearing of uniforms in knitting mills and certain other types of textile plants. This article is intended to point out some of the principal facts as observed at the Ware Knitters, Inc., where the girls have been required to wear uniforms for the last three years.

In the first place, we were confronted with the problem of color and style. This problem was taken up by the management with the help of representatives of the girls in the mill. Certain colors were objected to strenuously on the grounds that all girls do not look well in the same color. Also, if we were to permit the choice of color, we would lose the effect of uniforms. We finally chose white as the official color. As far as style, it was decided to allow the choice of certain basic styles. White creates an atmosphere of neatness, and a girl with a soiled uniform becomes conspicuous and selfconscious. Cleanliness is an important factor in the manufacture of knit goods and lack of cleanliness may be costly.

Naturally, the question of cost was one of the first to be considered, both from the angle of original purchase price of the uniforms and the cost of

To be attractive, white uniforms must be clean; the mill and employees share the cost for laundering

laundering. After trials of different methods, it was decided to furnish the first two uniforms after a girl had worked at a job sufficiently long to be accepted as a permanent employee. In addition to the original two uniforms, the company furnishes a definite number of replacements per year. If a girl wants more than the number furnished, she buys them herself or, if she wants a better grade, she is allowed to purchase her own, provided it is white and conforms basically in style to the standards adopted.

The cost of laundering is shared by the company. The desirable feature of sharing this expense is that it creates some responsibility as to the care the uniforms receive. A plan was worked out with a local commercial laundry to allow it to do this work during its normally slack period of the week, thereby effecting a slight saving in the cost of laundering.

One of the noticeable desirable effects of wearing uniforms is that it fosters a harmonious feeling. The girls go out in groups at lunch hour and make a favorable impression on the townspeople, as well as on tourists passing through town. This reflected by the fact that the girls are given certain credit privileges by storekeepers on the basis that the uniform shows they are desirable employees of Ware Knitters, Inc. It is quite noticeable too that new girls are anxious to get their uniforms. This last feature is one of the best arguments for the uniforms. It is important today for employers to get the cooperation of the new operatives.

One of the arguments against the uniforms is that if they were not required, the girls could wear out old dresses which they no longer care to wear on other occasions. However, other girls state that the uniform saves dresses and eliminates the natural rivalry in clothes that a large number cannot afford to indulge in.

Another complaint is that the uniform is not always warm enough and, if sweaters or jackets are worn, it spoils the effect of the uniform. This is a complaint which we have not been able to solve satisfactorily. The mill is kept at a temperature which is comfortable for most of the girls.

Uniforms, if properly chosen, will give the operative a freedom of movement which can be an aid to efficient operation. Another important factor is that they promote safety. This is accomplished by avoiding long sleeves and fancy frills which might get caught in the machines.

After three years of experience, our conclusion at Ware Knitters, Inc., is that the advantages of the uniforms outweigh the disadvantages, and we plan to continue with uniforms.

A Few Records

Manville Jenckes Corp., Manville, R. I., recently presented the eleven employees who have been with the company for 50 years or more with $50 and with a gold emblem studded with two diamonds. The company has also given silver emblems to all with the company from 25 to 45 years. Actually 319, or 10% of the payroll, have received these pins. The five-year groups are as follows: 25 years, 127; 30 years, 98; 35 years, 48; 40 years, 28; 45 years, 9.

Goodyear-Decatur Mills, Decatur, Ala., won the weaving and spinning trophy in the fist State-wide contest sponsored by the Alabama Department of Industrial Relations in 1941. This mill had 920,908 man-hours exposure to accidents with only three lost-time accidents, a frequency rate of 3.26, compared with national average of 7.77 and a State average of 11.60 in 1940. Adelaide Mills, Anniston, Ala., captured the spinning safety trophy with three lost-time accidents during 251,343 man-hours exposure, a frequency rate of 11.94.

Spinning Room Practice

Causes of badly wound bobbins, with emphasis on building mechanism

By WILLIAM STOCKTON

THIS IS THE FIFTH of a short series of articles on cotton mill spinning room practice, with special emphasis on causes and prevention of yarn imperfections arising in the spinning room. The material was compiled from various sources and was used by Mr. Stockton in employee training courses in several southern mills

BOBBINS, their suitability to the frame and the size ring with which they are used, and to an equal extent the build of the yarn on the bobbin, play an important part in the quality of yarn produced. When ends break while a frame is starting, it is a good indication that the diameter of the bobbin is too small for the ring. A snarled bobbin may be caused by the ring rail dwelling too long at the top of the traverse; a ridge on the bobbin may be caused by the ring rail dwelling too long at any point on the traverse.

The dwell of the ring rail may be caused by interference of some mechanism which is out of proper adjustment due, in part, to some of the following causes: builder weights or builder racks striking the spindle rail; rivets of the chain riding edges of the flange pulley; hook or filbow on the builder chain striking the pulley in the cradle stand; cradle stand set too high in relation to segment arm, causing the chain to rub on the cradle and causing a hollow in the side of the bobbin; cradle stand binding and not swinging freely, preventing uniform movement of the rocker arm. In the latter event, ridges will be on the taper.

If the head-end connecting rod is

not properly set, the hook may bind on the inner edge of the casting, thus causing a dwell of the rail. When weights are set too high, interference with connecting rods may result; this occurs when the ring rail is not at the bottom of the stroke. Balance weights may strike the floor or samsons, causing a dwell of the ring rail when at the top of the stroke. Screw on end of chain at crossover or reverse cross shaft at the foot-end may strike the samson, preventing the full traverse at the foot end of the ring rail.

When the screw on the end of the chain is not properly fitted and tightened in place on the filling drum, the chain may slip off the drum when doffing. The result, when the frame is started, is that the ring rail will not be in the proper position; then it is necessary to doff the spoiled set and start over. This may be avoided by setting the screw eye so that the chain leads centrally around the drum gear and not off the outside edge of the drum.

When a separator blade becomes loose and out of place, it may strike the thread board and prevent the completion of the traverse of the ring rail at the top of the stroke. When ring rail separators are set too high, separator bars may strike thread board hinges, causing the ring rail to dwell at the top of the stroke. If Rhodes Chandler separators are set too far back, it causes separator blades to interfere with thread boards; this retards the ring rail at the top of the stroke.

When a frame is turning off snarled bobbins, the most common cause is an overbalanced ring rail that runs too hard. The most common cause of ring rails binding and running hard is the accumulation of oil and fly on the lifter rods. When such trouble starts, weights are often pulled farther out to overcome this binding; the result is that the rail binds and the additional weight is not noticed. However, when this remedy is resorted to several times, there comes a time when the ring rail is pulled down with difficulty. Unnecessary strain is applied to the builder chain and to all the builder parts, and this condition brings about a slow change of the traverse; the longer this period of hesitation, the more pronounced will be the difficulty with snarled bobbins. The remedy is to clean all the lifter rods and bushings and to adjust the balance weights, and, if necessary, all the under parts should be cleaned.

Tapers that are too short result in snarled bobbins; it is better to have less yardage on the bobbins than to have too many of them snarled. Tapers that are too long result in unnecessary loss in yardage on the bobbin; to increase yardage to a reasonable point, when it is warp wind, reduce the picks. A worn point on the heart does not cause a dwell at the top of the traverse and therefore is not responsible for a bobbin being snarled at the top; however, it does cause a ridge at the bottom of the bobbin. Uneven length of points of the filling heart is not a remedy for snarled bobbins. Such a heart merely throws an unevenly-spaced binder thread over the bottom shoulder of the taper.

With filling wind using a small ring, snarling may be avoided by speeding up the rail to create a more open wind, and less picks will be required. Where a large ring is used with a filling wind, the number of picks is necessarily small, and further to reduce the number of picks would defeat your purpose. However, to prevent snarling it is advisable to slow down the rail, by the use of a smaller lay gear, to a point where more picks can be added. Another method, which may be resorted to where a double worm gear is used on the vertical shaft, is to substitute a single worm. This permits a change in gear, or addition of more picks, as conditions justify. The point is that the change from a double to a single worm arrangement provides a greater range of application of gears and picks.

A bad set of bobbins may result from one of several causes: the pin in the pick stand fastening at the head end becoming loose; the adjusting bolt in the swing arm for pick motion, and the adjustable swing top becoming loose; the pitman roll worn flat or failing to rotate uniformly; the heart truck stand becoming loose from the combination builder arm. The remedy is carefully to examine all the parts and be sure they are in good mechanical condition and securely tightened.

Bobbins wound too high or too low result from the common habit of doffing the rail too low, and this low position of the ring rail allows yarn to be wound on the cone of the spindle. An accumulation of yarn on the cone of the spindle prevents the doffer from placing the empty bobbin in its proper position on the spindle, and the result is that the yarn is wound too low on the bobbin. This also will cause the bobbin to rise on the spindle while the frame is running.

The proper position of the rail when doffing is at the place where the yarn will be wound *on the bobbin* just below the bottom of the traverse; and the doffing latch should be set in a position that will lock the rail in that position. When the adjustment is made, remove the yarn wound around the spindle and it will be found that no more yarn accumulates there.

Job Instructor Training

How textile mills can benefit from program initiated by War Production Board

TO HELP all those who instruct workers on the job, the War Production Board's Labor Division has initiated a job instructor training program, which is already being given to over 20,000 of overseers, foremen, and other supervisors in more than 900 plants, employing in excess of 1,500,000 workers. The purpose of the program is to so train foremen, skilled workers, etc., that they in turn will be able to instruct a new worker on a job quickly, easily, and effectively. Below are given: (1) a general outline of the plan; and (2) a summary of the recommended procedure to be followed in training new workers.

Key to the program is the Job Instructor Training Service, conducted by the Training Within Industry Branch of the War Production Board. Training of overseers, foremen, or other key men selected by their employers is given in five 2-hr. sessions at any time —day or night, even on Sunday—convenient to the companies and those who attend. The sessions are led by men experienced in industry who have been carefully trained in this work. The training is given without cost to employees of all companies holding war production contracts or sub-contracts. To get the program started, all that is necessary is to notify the district representative of WPB's Training Within Industry Branch. (See accompanying list of district offices in textile centers.) A schedule supervisor will call at the plant promptly to meet with the superintendent, personnel manager, or other executive to complete all arrangements for the first group—best results are obtained with groups of twelve.

Having completed the course, the trainers are ready to train new workers in their own plants. In addition, arrangements are made with the State

JOB BREAKDOWN SHEET FOR TRAINING MAN ON NEW JOB

PART ..... OPERATION .....

Important Steps in the Operation	"Key Points"—knacks, hazards, "feel," timing, special information

Breakdown sheet for use by trainer; it is not given to the worker

Departments of Vocational Education so that their services are available to other companies and industries. Scheduling and compensation for trainers (for after-hour work), whether day or night, is handled by State Departments of Vocational Education.

The program does not teach men how to spin or weave for example. What it does is to show overseers, assistant overseers, etc., who know how to spin or weave, how to pass along that knowledge to others in the most simple, effective, and rapid manner. It stresses the procedure outlined in WPI's Labor Division Bulletin C-2, "How to Instruct a Man on the Job." An abstract of that bulletin follows:

TO INSTRUCT a man rightly takes just a little extra time at the moment, but it saves hours and days of time later on, and prevents a large part of the scrap, spoiled work and accidents. The following plan is simple and easy to follow. Furthermore, it works. Before instruction, there are four get-ready points for you to watch. You can do them in a few minutes. When instructing, there are four basic steps to follow.

1. Have a time table showing how much skill you want the man to have—and how soon. Here is an easy way to do it. Answer to yourself this statement: "(employee) should be able to (do what job) and do it (how well) by (what date)."

Better yet, put down the names of your men on a piece of paper. Set yourself some dates when you are going to try to have them able to do the jobs they need to know.

2. Break down the job. You know that there is one right way to do every job. You know too that there are a few key points in every operation that make or break it. If these key things are done rightly, the whole operation is right. If any one of them is missed the operation is wrong.

There is an easy, quick way to get the job clearly outlined in your mind. Fill out a Breakdown Sheet, similar to the one illustrated for each of your operations. It only takes 3 to 5 min. This is for your own use. It is not to be given to the worker.

3. Have everything ready—the right tools, equipment, and materials. When you touch a job in front of a worker, set the correct example. Don't use the wrong tool. Don't fumble. Don't excuse. Don't miss a trick. When you have everything right, he is more likely to do the same.

4. Have the work place properly arranged, just as the worker is expected to keep it. The same thing applies here as above. You must set the correct example. Put his bench, desk, stock pile, or wherever he is to work in proper order before you start to put over the job to him.

THE FOUR BASIC STEPS to follow when instructing are as follows:

1. Prepare the worker to receive the instruction. Put him at ease; remember he can't think straight if you make him embarrassed or scared. Find out what he already knows about this job; don't tell him things he already knows; start in where his knowledge ends. Get him interested; relate his job or operation to the final product, so he knows his work is important. Put him in the right position; don't have him see the job backwards or from any other angle than that from which he will work.

2. Present the operation. Tell him, show him, illustrate, ask. Put it over in small doses; he (the same as all of us) can't catch but six or eight new ideas at one time and really understand them. Make the key points clear; these will make or break the operation—maybe make or break him. Be patient—and go slowly; get accuracy now—speed later. Repeat the job and the explanation if necessary.

3. Try out his performance. Have him do the job, but watch him. Then have him do it again, but have him explain to you what he is doing and why; all of us find it easy to observe motions and not really understand what we are doing; you want him to understand. Have him explain the key points. Correct his errors, but don't bawl him out or indicate that he is thick or dumb. Continue doing all this until you know he knows; he may have to do the job half a dozen times.

4. Follow-up. Put him on his own; he has to get the feel of the job by doing himself. Tell him to whom he should go to if he needs help; make this definite—yourself or someone you designate; the wrong person might give him a bum steer. Check him frequently—perhaps every few minutes at the start to every few hours or few days later on; be on the look-out for any incorrect or unnecessary moves; be careful about your taking over the job too soon, or too often; don't take it over at all if you can point out the helps he needs. Get him to look for key points as he progresses. Taper off his extra coaching until he is able to work under normal supervision.

FOR HELP IN TRAINING INSTRUCTORS

Training Within Industry Branch, Labor Division, War Production Board

Headquarters: **Fourth St. & Independence Ave., S. W., Washington, D. C.**

District Offices in Textile Centers:

Atlanta, Ga., Georgia School of Technology, 225 North Ave., N. W. (Hemlock 6890)

Baltimore, Md., Room 3106, Baltimore Trust Bldg. (Plaza 7460)

Boston, Mass., Room 1033, Park Square Bldg. (Hubbard 0380)

Chicago, Ill., 2600 Civic Opera Bldg. Drive (Andover 3600)

Cincinnati, Ohio, Room 840, Union Trust Bldg. (Cherry 3740)

Cleveland, Ohio, 4th Floor, Union Commerce Bldg., Chester-9th St. (Cherry 5975)

Indianapolis, Ind., Room 1428, Circle Tower Bldg. (Market 9411)

Los Angeles, Calif., Room 452, Roosevelt Bldg., 727 West Seventh St. (Trinity 2104, 2105)

Minneapolis, Minn., 326 Midland Bank Bldg. (Bridgeport 7591)

Newark, N. J., Room 601, 605 Broad St. (Mitchell 2-1114)

New Haven, Conn., Room 513, 152 Temple St. (6-5186)

New York, N. Y., Room 2026, 11 West Forty-second St. (Pennsylvania 6-0486)

Philadelphia, Pa., Room 2301, 12 South Twelfth St. (Walnut 6820)

Portland, Oreg., Room 1006, Bedell Bldg. (Broadway 0380)

Raleigh, N. C., Raleigh Bldg., Fayetteville and Hargett Sts. (2-3306)

St. Louis, Mo., Room 603, Shell Bldg. (Central 4206)

QUESTIONS & ANSWERS

Weave Room Layouts for Canadian Army Fabrics

Technical Editor:

We would appreciate it if you could let us have the complete weave room layout for the following Canadian Army fabrics which, no doubt, are similar to those being woven in the mills in your country for the U. S. Army:

VD.47—31 in., 91x54, 12s carded warp, and filling, 2.00 yd. per lb. This is a 3x1 twill weave and must have full feeler motion.

VT.29—39 in., 75x92, 26s carded warp, 22s carded filling, 2.76 yd. per lb.; 1x2 twill weave; full feeler motion.

MV.331—39 in., 89x68, 32s carded warp, 22s carded filling, 3.34 yd. per lb.; 2x1 twill weave; full feeler motion. (8837)

For these fabrics, we suggest the following layouts:

3 up, 1 down, 4-leaf twill. 31 in. 91x54 12/1 warp and filling. 2.00 yd. per lb. Suggest trying 21.75-dent reed, 4 ends per dent, spread on 32.7 in. reed width.

1 up, 2 down, 3-leaf twill. 39 in. 75x92, 26/1 warp and 22/1 filling, 2.76 yd. per lb. Suggest trying 24-dent reed, 3 ends per dent, spread on 40.62 in. reed width.

2 up, 1 down, three-harness drill. 39 in., 89x68, 32/1 warp, 22/1 filling, 3.34 yd. per lb. Suggest trying 28½-dent reed, 3 ends per dent, spread 40.87 in. reed width.

Pin Holes in Taffeta

Technical Editor:

We are inclosing herewith a sample of taffeta which when held up to the light shows holes in the goods. We would appreciate an expression of your opinion explaining the reason for these holes, such as if the condition exists in the gray state or in the finishing. (8840)

The pin holes appearing in the black taffeta are caused by loose picks. The filling is not cut, but has a decided wave at the spots where the small openings are visible. One can readily see by the selvages when one shuttle was thrown out and the other one started. In those parts of the cloth where the selvage is perfect, one will find very few if any of these pin holes. In those parts where the selvage is ragged the pin holes are pronounced; the holes always follow the pick, definitely indicating defective weaving. If sandpaper had been used, of the type which was customary some years ago, no doubt most of these small filling loops would have been cut and in this manner would have formed small floats. Whenever this type of defect shows up, the mill should immediately check on the following points:

1. Shuttle tension: Must be as even as possible from the full quill to the run-down quill, and from one shuttle to another.

2. Shuttle check: Shuttles should "slide" into the boxes and come to a stop with the least possible rebound, or better yet, without any rebound at all. Plain acetate filling, such as the sample in question contains, requires a soft shuttle tension preferably without tension rings. This is with the idea of minimizing overstretched yarn which would show up as shiners in the finished cloth. Therefore such tensions are "dead"; i.e., there is no provision to take up any slack in the pick should more material be inserted than the cloth width requires. Accordingly, careful adjustments to insure proper operation of the shuttles are absolutely necessary.

3. Quilling: Uneven tension during quilling will also cause these loose picks. Improperly built cones or tapers (concave or convex) will cause one or more spirals of yarn to slide off the quill, for which the shuttle-tension cannot compensate. Too high a wind will cause sloughing off. For taffetas similar to the sample no higher than a five wind should be employed. This naturally reduces the amount of yarn which can be placed on a quill; nevertheless better fabric can be produced than when a seven wind is employed.

Other causes for loose picks are bad tips on quills, poor bunches, old sticky fur in shuttles, and knots on quills not placed on outside of package.

Sizing Worsted Filling

Technical Editor:

Please advise the method used and a practical formula for sizing 2-ply worsted yarns to be used as filling. (8841)

Yarns for filling must be prepared for the slashing machines just as warp yarns are. After slashing, they must be rewound. Pliability is necessary, hence a size bath must be prepared which is suitable. Many sizing preparations are on the market, and the manufacturers will supply the necessary advice and information regarding the application of their preparations.

In one mill the following formula was used: 100 gal. water, 8 lb. wool size (the mill's own formula), 88 lb. prime potato starch, and 3 lb. high grade fat.

This was used on warp yarns and it is suggested that the wool size may be omitted for good ply yarns. The amount of fat could be slightly increased and the starch content reduced to 80 lb. if the size produces brittle or stiff yarn.

Streaks in Satin

Technical Editor:

I am sending you a piece of satin cloth and will appreciate it if you will give me your opinion as to what causes the slight streaks that are marked on the face of the fabric. (8835)

There are several possibilities which might cause the discolored warp ends. A mixture in code numbers is most probable. Yarn from one code should never be mixed with yarn from another. Yarn manufacturers as a rule inform their customers of any code changes, since such changes may easily represent a change in the dye index of the yarn.

In other words, it can be mixed in two ways: (a) mixed cones or spools in warping; (b) wrong piecing ends in slashing. When there are lost ends due to careless warping, slasher tenders sometimes run in extra ends. They may have been told that the yarn is 100/40, 3 turns Z-twist, bright viscose, but not informed of a new lot number or a change in code.

Analysis of three warp ends from this fabric shows varying filament counts; namely, 26, 30, and 31. Also, the filaments in the 26-fil. yarn are very irregular in size, some of them being twice the size of others. This would seem definitely to indicate that the streaks are due to yarn mixture.

Reeds and heddles might also cause this trouble, and should be checked for possible damage. Tensions in warping should be gone over to make sure no ends are too tight or too loose. Ringers on the warp beam, due to careless weaving, can affect the tension of the end. And, as is well known, irregularly tensioned ends will reflect light differently.

Elongation and breakage tests did not reveal any variations; neither did microscopic examinations show any damaged filaments. We are therefore of the opinion that mixed code numbers are most likely the cause of the discolored ends, but nevertheless recommend that you make a careful check up of all the other possibilities.

COTTON SECTION—Part II, Chapter I—Loom Harnesses

By IVAR MOBERG

LOOM HARNESSES, which so manipulate the warp threads that they are placed over and under the filling in conformity with a predetermined draft, are a very important factor in successful weaving. They were originally made from strong cotton twine, but in recent years there has been a tendency to replace the twine harnesses with harnesses made exclusively of steel. At present time, probably not more than 10% of the harnesses are made of cotton twine.

There are several types of harnesses on the market today. These types include varnished cotton twine harnesses, braided linen twine harnesses, cotton twine harness with mail eyes, twin wire heddles, twin wire heddles with inserted steel eyes, flat steel heddles.

Of these, the twin wire and the flat steel heddles are by far the most universally used. Ordinary twin wire heddles, formed by twisting the wire together above and below the center eye, have the disadvantage of breaking apart below the eye and developing a crack between the two wires in which knots and protrusions on the warp threads frequently catch. However, for low and medium sley, a new type of twin wire heddle has proved to be very practical. In these heddles there is no twist in the wires at the center eye. The twin wires simply separate to enclose a center steel eye. This presents a smooth heddle to the adjacent warp threads and reduces to a minimum the chafing effect of the heddles. These heddles are strong and durable, but are not suitable for high sley.

The most commonly used heddles are the flat steel type. These can be used for both low and high sleys, and chafing effect of the heddles is almost nil. They may be had in various lengths and weights to suit any particular weaving condition, and may also be had in cadmium- or nickel-plated finish to resist rust during storage.

Fig. C1 shows two types of flat steel heddles used in cotton weaving. It will be noticed that the upper heddle rod slot is bent into a figure-8 shape. The object of this bending is to keep the heddles at right angles to the heddle rods, thus insuring their free play on the rods. Just below the heddle rod slot every alternate heddle has an S-crimp in the wire which acts as a spacer for the heddles on high sley fabrics.

Fig. C2 shows the duplex flat steel heddle suitable for any high sley fabric. Such heddles make it possible to eliminate a repeat set of harnesses, sometimes required for high sley.

In using flat steel heddles the selection of suitable heddle frames is of great importance. The wooden members of the frame should be made of stiff, seasoned wood so that they will not bow or warp. Fig. C3 shows a modern type of harness frame used in cotton weaving. This frame can be had either with single iron ends as shown, or with double iron ends for heavier or wider classes of goods. The wooden members of the frame should not be, in the writer's opinion, less than 2½ in. in height. With less height they have a tendency to bow under the strain, especially if spring tops or direct under-springs are used in the weaving. Bowing of the wooden members is detrimental to good weaving with flat steel heddles, as it prevents the necessary play of the heddles on the rods.

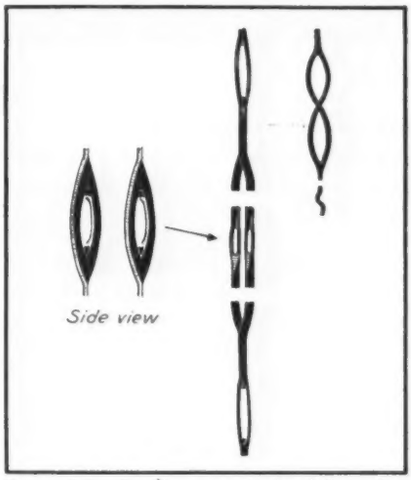


Fig. C2. Duplex steel heddles for high sleys

It is absolutely essential that there be 1/16 to ⅛ in. play between the limits of the heddle rod slots and the heddle rods during the weaving. Otherwise, the flat steel heddles have a peculiar habit of taking the longest way between two given points, resulting in diagonal locking on the heddle rods. In addition to increased warp breakage, this condition also causes excessive breakage of the heddles themselves. Of course, these disadvantages could also be overcome easily by the use of center braces to hold the frame together, but center braces are very troublesome and should be avoided as long as possible. On wide harnesses they are necessary evils

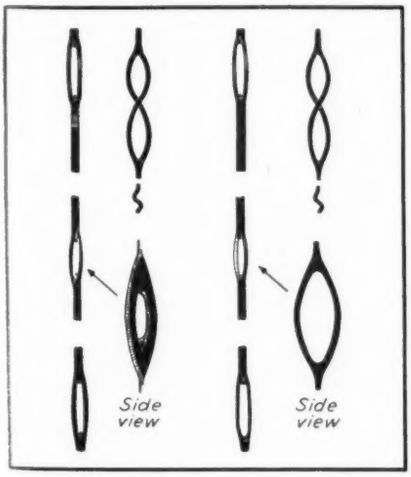
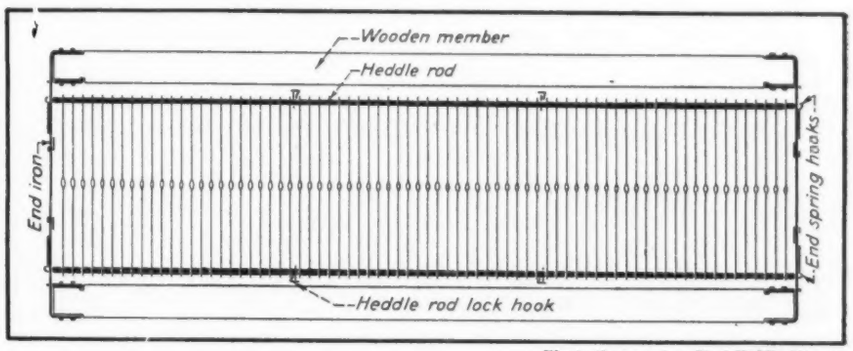


Fig. C1. Flat steel heddles used in cotton weaving



Illustrations courtesy Steel Heddle Mfg. Co.

Fig. C3. Modern type harness frame

but on narrow and medium-wide harnesses it is much more practical to increase the height of the wooden members of the frame to prevent bowing. The main trouble with using center braces is that they cause marks in the cloth, similar to reed marks.

It will be noticed that the heddle frame shown in Fig. C3 is equipped with the new type of heddle rod lock hooks. These are a great improvement over the old heddle rod hooks of bent wire which allowed the heddle rods to slide up and down in the hook, wearing themselves out as well as wearing out the hooks. The new lock hooks hold the heddle rod securely so that there is no friction between rod and hook. The new lock hooks also permit easy removal of rods from hooks, in contrast to the extremely laborious job of removing heddle rods from the old wire hooks, especially when the harnesses were in the loom and under tension.

RAYON & SILK SECTION—Chap. VI—Picking and Sweep-Stick Adjustments

By H. E. WENRICH

ONE OF THE EASIEST WAYS of cutting costs in the weave room is to purchase the best picking sticks available. Some few millmen reverse this idea, and save a few cents when purchasing sticks, unaware that they are losing dollars by saving pennies. A first-grade, top-quality stick will outlast several cheap sticks; in fact, a good stick should last at least a year, providing shuttle boxes do not jam, causing the stick to break. Another suggestion: when a good picking-stick pattern has been found, one which decreases loom and replacement trouble, stick to that pattern! When reordering sticks, always purchase from the same manufacturer, specifying that reorders be filled with sticks of the same pattern. Obviously, substantial savings in loom stoppage and loomfixers' time will result if the same pattern stick is used year after year.

If a picking stick is too thick through at top or bottom, its inability to function properly with the movements of the sweep stick will prevent the shuttle from entering the box as it should, as well as prevent the shuttle from being driven across the raceplate with required speed and force. The stick can of course be planed down, where necessary, to give it free and easy movement, but it is likely still to fail to work satisfactorily, often requiring excessive picking power.

In order to secure maximum service from a picking stick, the sweep should be from 8 to 11 in. long, according to the type of loom. Fig. RS34 illustrates the picking stick on a plain-side lay end. When in position for the pick, the stick rests at point *1*. Point *2* gives approximately a 9-in. sweep. Point *3* gives the position of the stick striking against the bumper strap, by which the stick has been retarded. After completing this movement, the stick flies back into the first position to be checked by the check strap, and is again ready for receiving the shuttle. This sequence applies to either pick-and-pick motions or those requiring two picks from the same shuttle.

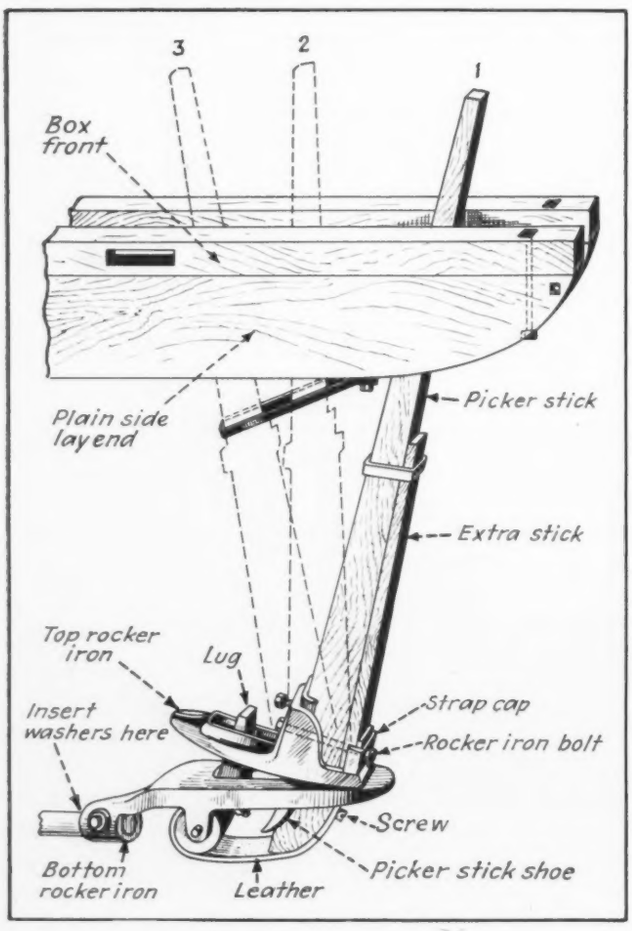


Fig. RS34. Picking stick and connections, on plain-side lay end

A short sweep causes less loom vibration, making for a smooth-running loom. If the sweep is too long, when going from point *1* to point *3*, the stick will bind against the bumper strap and is likely to break the strap and/or the hold-up screws, and eventually break the stick itself. Occasionally, splinters will fly off a stick that has too great a sweep, and into the shed, where they are woven into the cloth.

When the sticks become splintered, inspect the sweep to make sure it is adjusted as nearly as possible to move from point *1* to point *2* when the lay is turned over by hand.

As shown in the illustration, an extra stick, approximately 1x1 in. in size, can be utilized to give extra wear to picking sticks on wide looms. At the top, it is fastened to the top of the picker stick by means of a strap, and at the bottom by means of the rocker-iron bolt. Used on looms of 60 in. or more reed space, it obviates placing holes in the picking-stick proper.

The bottom end of the stick is slipped through the rocker iron with the picker-stick shoe in position. After this, the bolt is put through in position, and the strap cap placed on before tightening the nuts. Always use two nuts on this bolt; one serves as a lock nut, preventing loosening of bolts. Loose bolts cause center loops, rough cloth, edge loops, and shuttle marks.

There are several methods of applying more pick on this type of connection. One is to use the setscrew and locknut on the rocker iron, but this is not always satisfactory. When the rocker-iron bolt works loose, or through long wear, the adjusting setscrew is likely to wear a hole through the picker-stick shoe. If pick is desired at this point of adjustment, a small piece of leather can be placed between the stick and shoe. This will have the same action as the adjusting setscrew, but will avoid the bad features just described. When a picker stick fails to go back to point *1* as it should, a piece of leather placed as described will often remedy the trouble and permit the same picker stick to provide added service.

FIXING HOSIERY MACHINES

FULL-FASHIONED MACHINES—Chapter XIII (continued). Friction Boxes

By WALTER A. SIMOND

THE ALTERNATING 3-CARRIER FRICTION BOX must have its operating mechanism so adjusted that the plunger will seat fair in the notched dial for each change of carriers. The adjustment for wear is obtained by lengthening the link which operates the ratchet pawl at the back of ratchet gear 3 (Fig. F32). The moving members of the alternating friction box must be carefully lubricated so as to prevent the machine oil from getting onto the friction rods. The amount of friction on the disk at the left hand end of the keyed camshaft 2 ought not to be excessive, yet must be enough to prevent the camshaft from turning too far. In order to avoid any interference with the movement of the friction box levers 4 and 5, the forks on the three carrier rods must be kept so they will be exactly opposite at the end of each Coulier stroke, and their position checked when adjusting the carrier rod stops.

Chapter XIV
Thread Tension Devices

THE THREAD TENSION must be constant to prevent uneven loop lengths in the fabric and looseness at the selvages; but not heavy enough to stretch the yarn or thread. The slightest pull when loops are passing from the nibs of the sinkers and dividers to the knock-over beds will shorten the selvage stitches and often will cause a cut at or near the selvage. Badly worn or dirty felts will cause an uneven thread tension. Moistening troughs should be washed clean at least once a month. At the same time the felts should be washed to prevent them from hardening or becoming sticky, as felts, in that condition will apply an uneven amount of moisture to the thread. After cleaning, the troughs should be filled with new solution or emulsion. Where glass tubes or rods are used in the troughs for moistening silk, they need to be adjusted so the thread will be properly conditioned and tensioned. Spraying of the machines by the moistening fluid can be prevented by fastening strips of felt to the front edge of the moistening troughs with wire clips. Slits may be cut in the edge of the felt strips with a razor blade to aid in wiping off the excess fluid.

It is advisable to knit all kinds of rayon, cotton splicing, ingrain or boiled-off silk, hygroscopic silk (known also as direct knitting or dry package silk) or other dry yarns with the use of light tension disks. Although the disks must be kept clean so they will not be held open by an accumulation of lint, they are more easily cleaned and provide a more uniform tension than the felts formerly used. They may be easily weighted with washers of uniform size for lively yarns or threads.

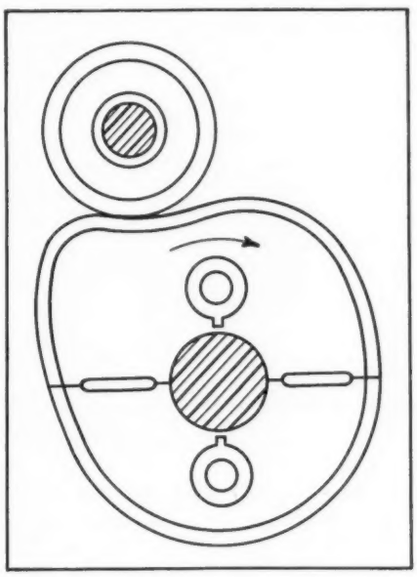
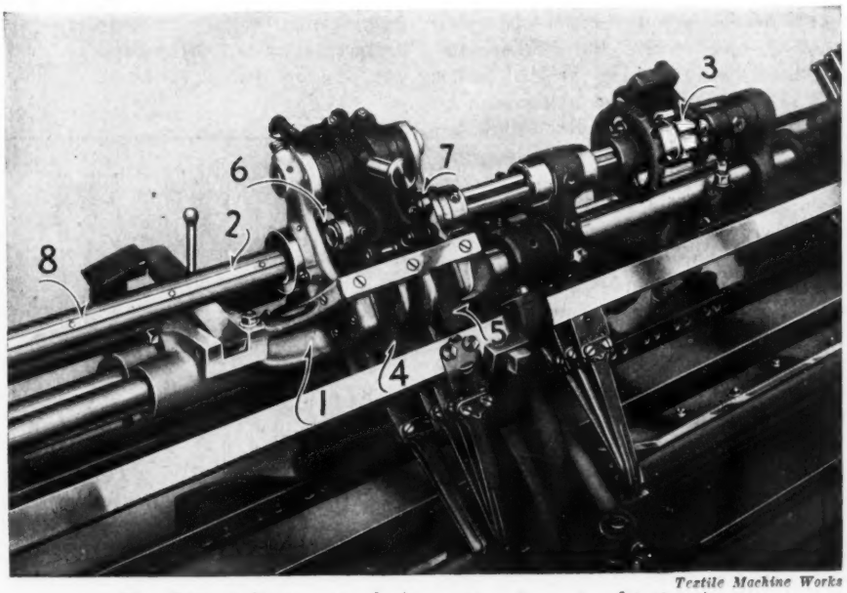


Fig. F33. Correct setting of snapper cams

The falling rings of the ring-tension device must be threaded so the upper side of the rings will be in front of the ring holder wires. When these rings are threaded from the other side, the yarn will cause the rings to bear against the back of the vertical wires so they will not rise and fall freely. These rings must be free in their movement; otherwise uneven stitches and shortened fabric will result. These rings and holders should be kept clean, and wiping with a cloth saturated with gasoline quickly removes gum and lint. The rings should be carefully examined periodically and those partly cut through replaced.

THE SNAPPERS should be securely set on the rods so all their springs contact the rod which opens them at the same time. The snapper springs ought to bear just barely enough on the thread or yarn so the falling ring will be supported. In testing the snapper-spring



Textile Machine Works

Fig. F32. Adjustment of alternating 3-carrier friction box

pressure, hold the yarn back of the falling ring; pull on the yarn below the snapper and raise the falling ring; and then release the yarn below the snapper. With less snapper-spring pressure, loose loops will be formed on the selvage; with more pressure than needed, the selvage loops will be too tight. When water is used in the moistening trough, the cast-iron snappers should be wiped frequently with an oily cloth to prevent rust pits from forming in the path of the yarn. Unless the rods which separate the wet strands are stainless steel, they also should be wiped with an oily cloth.

Bad selvages are often caused by snapper cams which are set incorrectly. In the January, 1934, issue of the *Reading Record*, it is stated: "In order to correct this condition a careful check should be made of all snappers to see that they are set even. The snappers should be set in the following manner: Turn the camshaft until the needle bar is in its lowest position; that is, with the needles all the way down; then set the snapper operating roller on the snapper cam in the position shown in Fig. 33, with the snapper spring open several thousandths of an inch. This setting will allow the snapper to raise the yarn along with the needles as they are brought to their highest position and thus prevent a loose end and a consequent bad selvage." Since July, 1935, the snapper cams on all Reading machines have been provided with a setting mark for facilitating such setting. The solid hook gage No. 5904, furnished with all machines, is to be used for this purpose.

CIRCULAR MACHINES — Chapter XV. St. Pierre Rubber Lay-In

By JULIAN W. HUGHES

THE ST. PIERRE METHOD of incorporating a rubber yarn in knitted fabrics differs from the Davis method in that instead of laying in the rubber it knits it in with very little tension; but it is similar to the Davis device in that it will produce rib-like effects on plain knitting; i.e., fabric knit on only one set of needles. The St. Pierre method, which is controlled by Hemphill Co., effects a neat rib-like top with a better grip on the leg than a true rib top. It can be applied to any model of Banner knitting machine which produces a complete sock, no transferring of the top being necessary.

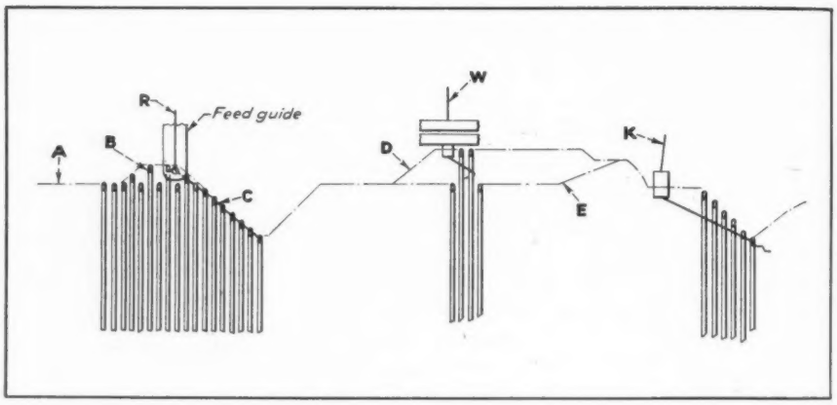


Fig. C34. Diagram of St. Pierre rubber lay-in

The rubber is fed to every alternate needle by a feed guide mounted on the latch guard opposite the regular yarn fingers. This feed guide is positioned vertically and feeds the rubber between latch guard and needles. Just before the needles reach the rubber feed, see Fig. C34, alternate needles are elevated from line *A*, as indicated at *B*, to receive the rubber yarn, *R*. The other needles pass below the feed guide and do not receive the rubber. Immediately after passing the feed guide, all needles are lowered along path *C*. From this point the needles follow the path indicated by the dash-dot line until they reach incline *D*, where certain needles are elevated to receive the wrap yarns, *W*; otherwise they pass along the horizontal line until they reach incline *E*, where they are again elevated preparatory to receiving the regular knitting yarn, *K*, from the regular yarn feed. This elevation of selected needles is accomplished, of course, by jacks and cams not shown in the diagram.

Fig. C35 shows the relation of rubber and regular yarn interknitting. The unshaded lines, marked *A*, represent regular knitting yarn; the shaded lines, marked *B*, represent rubber yarn. It will be seen that the regular yarn appears in every wale, and the rubber appears in every other wale. Since the rubber yarn contracts more than the regular yarn, it pushes the latter to the front, causing every alternate wale to protrude outward, presenting a rib-like appearance. Just as with the Davis attachment, the rubber is prevented from pulling out, and the fabric from raveling at the top edge, by starting the top with a tuck-stitch course.

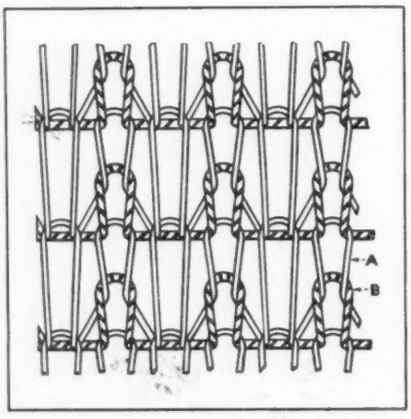


Fig. C35. Fabric knit with St. Pierre attachment; shaded yarn is rubber

Because the feed guide of this device is inserted between the yarn guard and the needles, it is unlikely that it will be set to feed the rubber incorrectly. Barring excessive wear on jack cams and lost motion in the connecting mechanism, this device will give little trouble. In one or two instances, however, the writer has known of feed guides causing excessive wear on needle hooks by being set close enough to rub them as the elevated needles passed. Therefore, fixers must be sure that needles and guides do not touch. And what has been said about keeping slipping blades sharp on the Davis attachment applies also to the St. Pierre attachment.

As moisture is the life of rubber, it is important that elastic yarns be run in rather high relative humidity. If the room temperature is hot, and the humidity is below 75%, rubber yarns, particularly when covered with cotton yarns, will have a tendency to kink and cause knitting difficulties. Accordingly, if the room is not air-conditioned, it is advisable to provide a small humidor on the yarn stand to house the yarn package and supply the rubber with moisture.

FROM THE EDITOR'S MAIL-BAG

From England

MANCHESTER, ENGLAND

Editor, TEXTILE WORLD:

Now that you are in this terrible war with us the punch that you put into your article "We're Now in a Last-Ditch War" which appeared in the November, 1941, issue of the TEXTILE WORLD has an added significance. I read that article with a great deal of interest and a great deal of pleasure, and I admire the way you tackled the job and told everybody straight what they are up against. I sincerely hope that it will have an effect. The Americans and the British in matters of this kind are, in my opinion, very much akin; they are a little slow in moving because they believe in peace; they are not aggressive and it takes a long time to rouse them but when they do get roused, then God help the other fellow.

I feel sure that the Allied forces now ranged against the Axis will triumph and I believe, although not in any foolish optimistic way, that the end is nearer than most people think. The dirty trick that the Japanese played is only a replica of the dirty trick that Hitler has been playing all along. The way he attacked Poland, and the way he attacked Russia after signing a friendly pact with them shows what his word is worth, and it is the same with the Japanese. Anyhow we have now got a show-down and I feel certain we shall roll along to victory.

I don't minimize the trouble ahead of us; I feel we are in for a bad time, but, along with good old bulldog Churchill, I am confident of the result.

FRANK NASMITH
Universal Winding Co.

"Washington in War Time"

Editor, TEXTILE WORLD:

I have just read your article, "Washington in War Time" and I think this is just a masterpiece. It is certainly full of interest and humor, and of course is wonderfully descriptive of what you run up against in Washington. During war times Washington should be the finest organized government and city in the world. We certainly ought to have men in the departments who will see to it that the men in the service get everything that is necessary and get it quick, so that we can win this war and get back to a peace basis just as soon as possible.

Things have not looked so good lately in any part of the world, and of course we realize that Japan got an awful jump on us just the same as Germany did. Japan coming into the war at this time will no doubt prolong the war until we get enough equipment and men to check this drive that is going on at the present time.

I hope that, in your visits to Washington from time to time, you will give us your opinion as to how things are going, and emphasize the economies that could be made so as to devote everything to winning this war. I am sure that our various manufacturers who have been visiting Washington and have come back with their reports, will certainly enjoy your description of "Washington in War Time."

R. W. BOYS,
President, Green River Mills, Inc.

Textile War Manual

HOBOKEN, N. J.

Editor, TEXTILE WORLD:

I think your "Textile War Manual" in your February issue is the best compilation of information which the average business man needs regarding Government procedure that I have seen. You have certainly collected the most necessary information and epitomized it into very compact form. I have made sure that every manager and department head of our company has a copy for his ready reference.

The second impression I get from the February issue is your very excellent brief editorial on "Washington in Wartime." I especially enjoyed the latter part of it and must confess that I did not know you had such a rich amount of humor in your make-up.

D. E. DOUTY,
President, United States Testing Co., Inc.

* * *

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

After looking over the February issue of TEXTILE WORLD, I must tell you that I think you and your associates did a splendid job in compiling the "Textile War Manual." You have gotten together a wealth of extremely interesting and valuable material which the textile industries should use advantageously.

EDWARD T. PICKARD,
Executive Secretary, Textile Research Institute, Inc.

* * *

AMSTERDAM, N. Y.

Editor, TEXTILE WORLD:

I have just received my copy of the February TEXTILE WORLD and I wish to congratulate you on the fine section devoted to "Textile War Manual."

So that I may have together a complete reference work, I will appreciate it if you will forward to me reprints of the series "Fabrics For Military Use."

L. R. JONES,
Product Control Department,
Mohawk Carpet Mills, Inc.

* * *

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

We wish to express our appreciation to you for the 25 reprints of the "'Textile War Manual" which you sent us together with your letter of Feb. 24.

We feel that your "Textile War Manual" is one of the most comprehensive and helpful guides we have seen on the activity of textiles in the defense field.

We are routing the reprints to those of our executives and personnel who are following this general subject in our various departments of production, sales, and technical development.

The TEXTILE WORLD is to be congratulated on a thoroughly constructive contribution to the war effort.

WM. N. CHACE,
Fibro Sales Division,
American Viscose Corp.

* * *

HYDE PARK, BOSTON, MASS.

Editor, TEXTILE WORLD:

We are now in receipt of the February, 1942, issue of TEXTILE WORLD and believe that the above annual is by far the finest issue of any trade publication that has yet appeared.

It is most complete with all essential facts for the textile industry, their part in the war effort, and information that all having to do with that industry may expect.

H. R. SEWELL,
Vice-president,
B. F. Sturtevant Co., Inc.

NEWS OF THE MONTH

Rayon Weavers Hold Annual Meeting and Later Vote to Dissolve

National Rayon Weavers Association held its annual meeting at the Harvard Club, New York, Feb. 14, and reelected all officers. They are: Allan Barrows, Gosnold Mills, chairman of the board; Charles Whitney Dall, president, secretary and treasurer; R. E. Henry, Dunean Mills, first vice-president, and Seabury Stanton, Hathaway Mfg. Co., second vice-president. On Mar. 10, at a special meeting, the membership voted to dissolve the association.

In his annual address, Mr. Dall stressed the shortages of materials which members faced. "Little or no additional rayon yarn production is expected," he said, "while a decrease in the amount of acetate available for weaving is anticipated, owing to more of the finer deniers being made. The supply of pigment yarn will be short as it becomes more difficult to secure titanium."

Allocation of substantial quantities of rayon yarn to industries, he said, "which hitherto have used other fibers, who have not borne the burden of experiment through uncertain years, and who are expected to discard the use of rayon yarn as soon as circumstances permit them to secure supplies of other fibers," has cut deeply into supplies available to weavers.

Mr. Dall predicted that there would be an increase in the control of industry by Government as the entire economy was geared to the war effort.

ACMA Meets in Atlanta May 1-2

The American Cotton Manufacturers Association will hold its annual convention at the Atlanta-Biltmore Hotel, Atlanta, Friday and Saturday, May 1 and 2. The board of government meeting will be held on Thursday evening, Apr. 30. The theme of the meeting will be "All Out for Victory."

Golf tournament and other organized sports are out; business will prevail. There will be both a morning session and an afternoon session on Friday, followed by the banquet which will be held in the Al Doonan hall of the Atlanta Athletic Club. The banquet will be preceded by a reception by the Atlanta Clearing House Association to the members and guests. On Saturday morning there will be two important addresses, followed by the business session.

Knitting Show Cancelled

Add casualties of the war: The Knitting Arts Exhibition which had been scheduled to be held in the Auditorium at Atlantic City, N. J., April 27 to 30, has been cancelled. The unexpected entrance of the United States in the war and the resulting actions taken by the Government to apply all possible productive capacity to war work and to divert all needed materials to Army and Navy requirements created a situation which made it difficult, and in many cases impossible, for exhibitors to participate in the exhibition, as all of their resources of staff as well as equipment have been applied to war work. The annual meeting of the National Association of Hosiery Manufacturers will be held in New York early in May.

It is expected that when normal times are established the exhibition will resume and will continue the record of service which it has performed for so many years past.

Only One Opposes "Textile" Wage Minimum

A public hearing by Wage-Hour Administration on the 40¢ minimum wage recommendation of the "textile" industry was held at Washington Feb. 20, and only one witness appeared in opposition. The industry has been under a 37½¢ wage minimum since June 30, 1941. The textile industry, as defined for Wage-Hour Administration, includes cotton, rayon, silk, and some further processing. The hearing was presided over by Maj. Robert N. Campbell. Next step was to be a decision by Administrator Thomas W. Holland, who is empowered by law to issue an order in accordance with the committees recommendation.

Knitters on Government Work Must Pay Higher Wage

Division of Public Contracts, Labor Department, has issued a determination that the minimum wage for employees of knitted and men's woven underwear and commercial knitting industry, engaged on contracts with the Government shall be 40¢ per hour or $16.00 per week of 40 hours, effective March 3, 1942. The previous minimum was 32.5¢ in the South and 35¢ in the North.

Fashion Group Hears Stanley Marcus

The first "official" message from Washington to the women's garment trades was given by Stanley Marcus, apparel consultant for the War Production Board, at the

A NEW EVENING GOWN, with wide skirt is made of checked Koda taffeta. The fabric sponsors are Eichmann & Hecht, and the fabric is made from Eastman acetate rayon. The full-skirt vogue has gained added importance this season as a result of the interest in South American styles. The bodice is made of white lace.

CALLAWAY MILLS TOWEL SALON—View of "The Towel Salon of Tomorrow" instead at Miami Beach, Fla., to distribute Callaway towels and bathroom accessories, and to act as a retail laboratory. The stock is arranged in groups by color, as a result of the discovery that, after quality, color has the strongest influence with the consumer buyer.

regular monthly luncheon of the Fashion Group on Feb. 17, at Hotel Astor in New York. Mr. Marcus forewarned of the scarcities to be expected and emphasized the need for ingenious use of the materials to be available. He also pointed out the need for cutting out obsolescence and extravagance in both production and promotion of civilian fashions. The whole industry—from raw fiber through retail distribution—can expect, Mr. Marcus said, to be taxed to the limits of their abilities to produce and to invent new ways to satisfy civilian demands.

Dinner for Gen. McCain and Staff

Brig. Gen. W. A. McCain, commanding officer of the Philadelphia Quartermaster Depot, and members of his staff were entertained at a dinner at the Wool Club, New York, on Feb. 16. The dinner, attended by about 300, was sponsored by the Textile Square Club and was held with the idea of allowing members of the textile and garment industries to meet the important procurement officers. Harry Riemer, president of the Textile Square Club, presided and introduced Gen. McCain, members of his staff, and many visitors from outside the New York area. In his address, Gen. McCain outlined the duties of the Quartermaster Department and praised the textile and garment industries for the cooperation which he had received.

Committee D-13 Meets in Providence

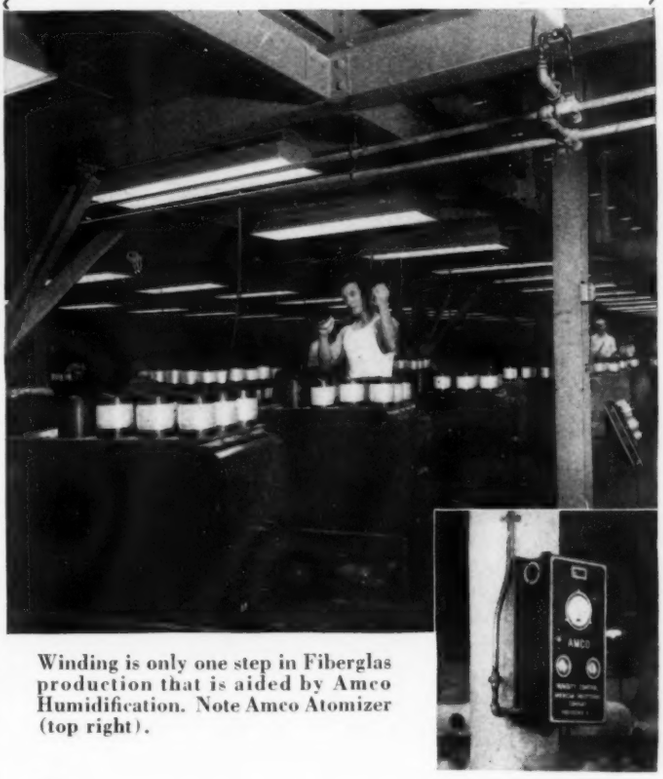
The regular spring meeting of Committee D-13 of the American Association for Testing Materials was held March 11 to 13, in Providence. At the papers session, Werner Von Bergen, of Forstmann Woolen Co., and Fred Noechel, of Botany Worsted Mills, presented a paper, "Application of A.S.T.M. Methods for the Manufacture and Control of French-Spun Yarn." A more detailed report of the meeting will appear in our next issue.

WPB Order Affects Printed Patterns

Print cloth manufacturers, printers, and converters were advised on Feb. 23 of a forthcoming WPB order that will require a reduction in the number of patterns and strength of

"Holds Humidity Right on the Nose"

FOR FIBERGLAS PRODUCTION!



Winding is only one step in Fiberglas production that is aided by Amco Humidification. Note Amco Atomizer (top right).

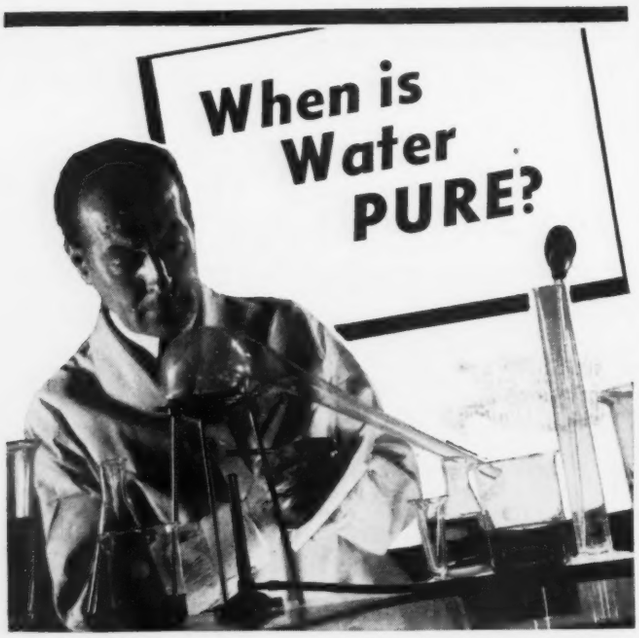
Fiberglas filament is so fine that 98 miles of it are spun from a single ¾" glass marble – so fine that static electricity would play havoc in handling it!

To eliminate static and insure correct sizing on such gossamer-strands, the new Ashton, R. I. Plant of Owens-Corning Fiberglas Corporation must closely maintain a relative humidity of 65%. After 6 months operation, 24 hours a day, they report "Amco Humidification holds this humidity *right on the nose!*"

Amco Humidification is completely automatic. Amco Self-Cleaning Atomizers deliver finely atomized spray in correctly regulated quantity, without drip or feathering down.

Why not learn exactly how these accurate humidifying systems can improve your wartime production? Let Amco Engineers survey your plant, and report. American Moistening Company, Providence, R. I. . . . Atlanta . . . Boston . . . Charlotte.

Amco HUMIDIFICATION



Water may be certified as pure for drinking purposes and yet contain certain impurities which would make it unsatisfactory for boiler use. Likewise, properly conditioned feed water would not necessarily be fit for manufacturing processes.

It has been Graver's job for more than 30 years to know the purification requirements of hundreds of industries—and to design and manufacture the equipment which would so condition raw water as to provide the proper results efficiently and economically.

Graver Engineers are exceptionally well qualified to make a complete analysis of your water conditioning problems and submit unbiased recommendations—and you are invited to consult with them without obligation.

Ask For These Graver Bulletins.

Bulletin 301. Pictures and describes Graver Pressure Filters. Explains general construction and contains specification tables for both horizontal and vertical types.

Bulletin 303. Fully describes the Graver Hot Process Water Softener. Also contains detail drawings of two types of equipment plus other interesting information.

Bulletin 307. Covers Graver Zeolite Water Softeners as well as six types of Graver Zeolites. Contains a series of six interesting flow diagrams covering softening of water with Graver Zeolites.

GRAVER

WATER SOFTENERS • CLARIFIERS • FILTRATION SYSTEMS
SEWAGE DISPOSAL EQUIPMENT • VAPOR CONSERVATION SYSTEMS
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GRAVER TANK & MFG CO., INC.

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EAST CHICAGO, IND.
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pattern colors. According to the notice, the number of patterns for print cloth will be cut in half, designs must be made with not over 50% peg coverage when used on white grounds or commercial tint ground; blotch patterns should have a peg coverage of not over 40%; and blotches should not be deeper than Class 2 on vat or pigment dyes or Class 3 on all other dyes.

To Curtail Civilian Use of Dyes

Curtailment in use of dyes in textiles for civilian use is necessary to meet the requirements of the military program, according to a statement by R. R. Guthrie, of the WPB, at a meeting of the Cotton and Rayon Finishers' Industry Advisory Committee, held last month in Washington. Plans under consideration involve the limitation of dark shades and possible abandonment of vat dyed brown and tan shades.

American Woolen Nets Nearly $7,000,000

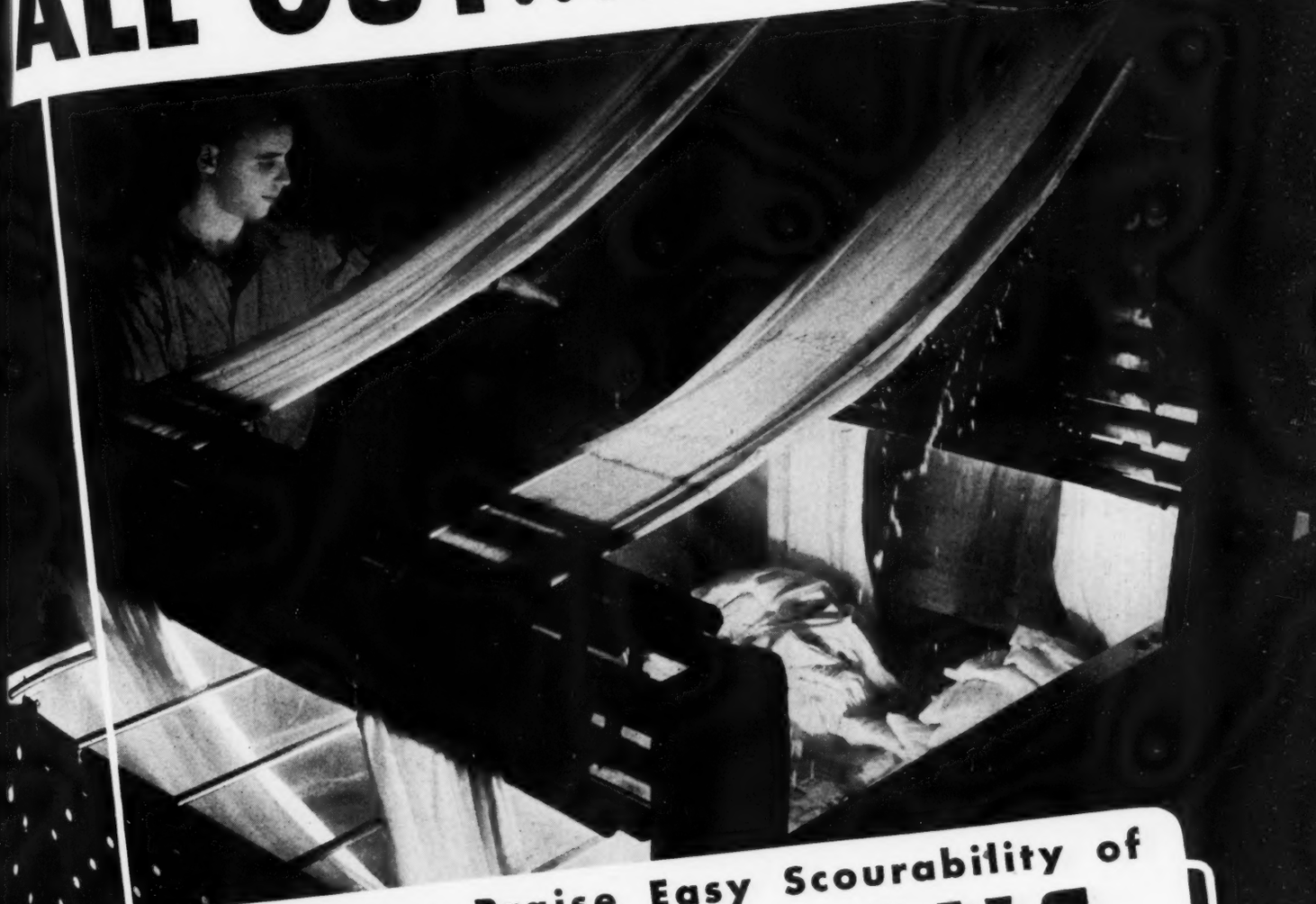
Net profit of $6,943,886 is reported for the year ended Dec. 31, 1941, by American Woolen Co. This figure was reached after providing for Federal income and excess profit taxes and setting up a special contingency reserve of $2,000,000. The figure compares with a net profit of $3,154,464, in 1940. Net sales for 1941 were $145,749,428 as compared with $76,560,111 in 1940. Billings to the United States Government in 1941 amounted to $72,337,590 out of the net sales, compared with $22,231,406 in 1940. The provision for Federal income and excess profit taxes out of 1941 earnings amounted to $12,200,000.

Start Drive for Another Wage Boost

From various quarters of the country came reports in the latter part of February that the Textile Workers' Union of America was initiating a drive for a wage raise. Specifically 10¢ per hour has been set as the goal. A meeting to organize the drive in the South was held at Charlotte, N. C. on Feb. 22. Similar demands had been made in Fall River, Mass., Lewiston, Maine, Salem, Mass., and other northern centers a week earlier.

NEW HOUSE BUILDING METHOD—Goodyear Tire & Rubber Co. has devised a method for quick erection of small, substantial housing, well-adapted to war emergency work. The method involves an original outlay for considerable fabric for a large hemispherical balloon. This is inflated with compressed air and when fully distended with a pressure of 1½ lb. per sq. in., it is covered to the depth of two or three inches with concrete from a spray gun. When concrete is dry, the balloon is deflated and removed from the unit, and an igloo-type dwelling has been made. In the background of the photograph are two of the finished units.

ALL OUT...*in the Wash!*



Processors Praise Easy Scourability of

SUNOTEX OILS

What makes a good textile processing oil? *Thorough penetration?* — Important! *Good fiber lubrication?* — Very important! *Easy and complete scourability?* — Absolutely essential! Processors and dyers join in acclaiming **Sunotex Oils** "tops" in all three.

One processor, for instance, states that he obtains "excellent penetration and good hand" with **Sunotex Oil** in rayon processing. In scouring, he is "able to cut down on alkali due to the softening and detergent qualities of the oil." A dyer reports he is "very well pleased with the results on 100% wool" . . . claims that, "for cotton velours, there is nothing better."

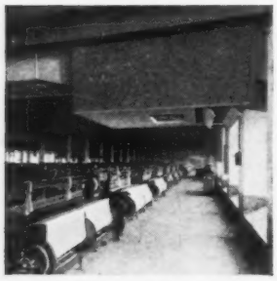
If you are not obtaining similar satisfaction from your present processing oils, or if these are no longer available, take advantage of Sun's Textile Technical Service. Let one of Sun's "Doctors of Industry" work with you to prove how the right **Sunotex Oil** may make possible better processing . . . improved quality . . . and a higher Production Quota. Write or wire SUN OIL COMPANY, Philadelphia, Pa.

LET'S GO! U.S.A. KEEP 'EM FLYING!

SUNOCO

UN PETROLEUM PRODUCTS HELPING INDUSTRY HELP AMERICA

VITAL HELP
for old Spinning Rooms and Weave Rooms
with the help of
Certified Climate

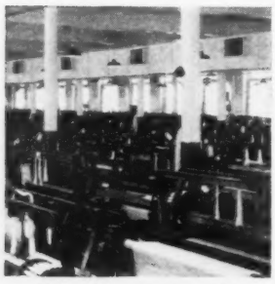


Air enters through mixing chamber

Regain higher and more dependable. Greater strength and more uniformity in numbers.

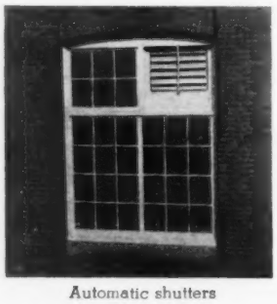
Propelled through ducts, graduated

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



Uniformity of many outlets

Fewer Ends Down. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.



Automatic shutters let heat out

Better Product from shorter, less expensive staple. And very often 2% to 3% more production.

Certified **CLIMATE** with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

TEXTILE CALENDAR

Textile Operating Executives of Georgia, spring meeting, Georgia Tech., Atlanta, Ga., Mar. 21, 1942.

National Association of Wool Manufacturers, annual meeting, Hotel Commodore, New York, Apr. 8, 1942.

Textile School of N. C. State College, 15th annual style show, Raleigh, N. C., Apr. 30, 1942.

American Cotton Manufacturers Association, annual meeting, Atlanta Athletic Club, Atlanta, Ga., May 1 and 2, 1942.

Cotton Manufacturers Association of Georgia, annual meeting, Cloister Hotel, Sea Island, Ga., May 21 to 23, 1942.

Chattanooga Yarn Association, annual outing, Lookout Mountain Hotel, Chattanooga, Tenn., May 21 and 22, 1942.

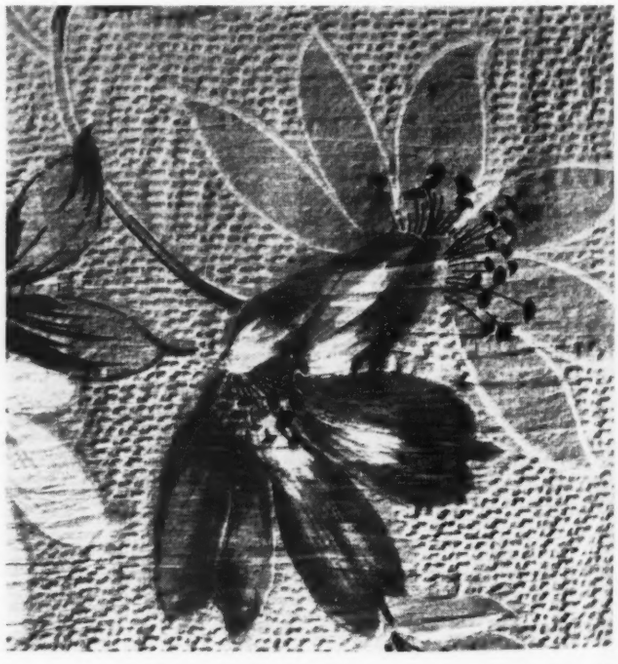
Southern Textile Association, annual meeting, Blowing Rock, N. C., June 11 to 13, 1942.

Mills at Work on Protection

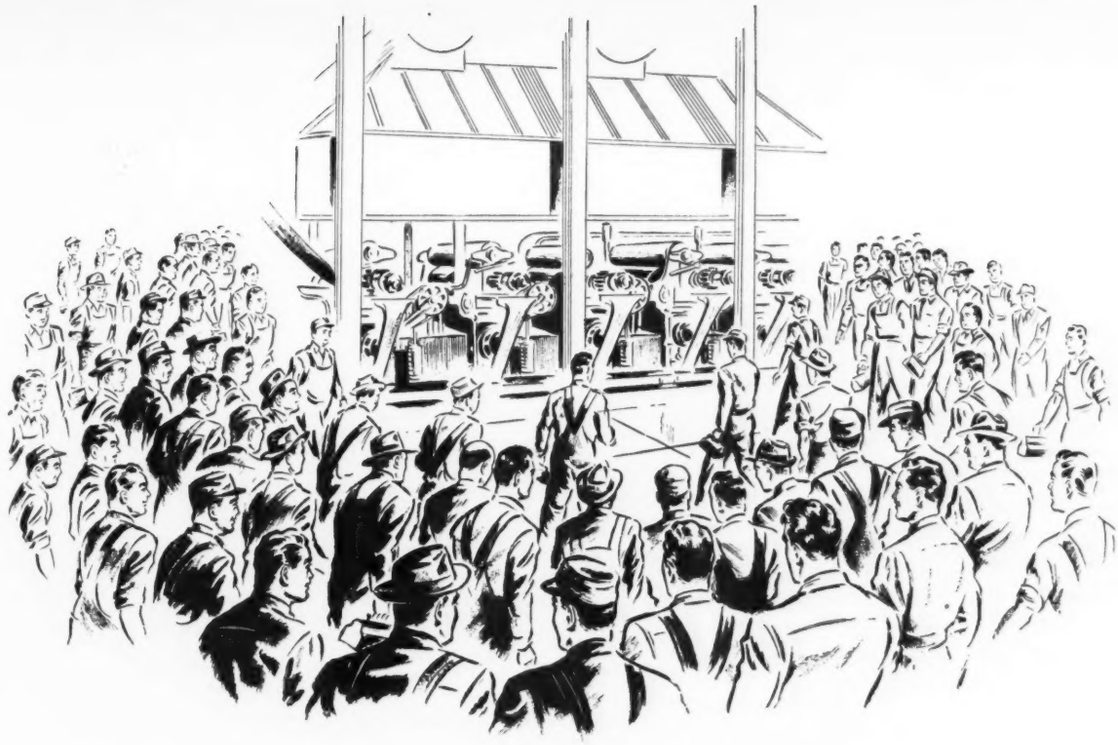
American Enka Corp., Elizabethton, Tenn., has begun air-raid drills to school its 3,000 employees in the evacuation of the plant for air-raid emergency. Oneita Knitting Mills, Utica, N. Y. has begun finger-printing and photographing all employees in accordance with regulations for industries having defense contracts; the plant employs 1,800. E. I. du Pont de Nemours & Co. has sworn in 13 of its employees as guards with special police powers at the pumping plant on the company's property on the James River near Richmond.

Western Outerwear Meeting

National Knitted Outerwear Association, Western District, at its 25th annual meeting Jan. 29 at the Hotel Sherman, Chicago, re-elected all officers as follows: John A. Sand, Jr., Sand Knitting Mills, Chicago, president; Armin Rosenberg, Reliable Knitting Works, Milwaukee, first vice-presi-



THREE SIMULATED WEAVE EFFECTS—A new development in high-style cottons for the summer season is Floralcade introduced by Fisba Fabrics, Inc., New York. A special printing process has made possible three weave effects in one fabric—batiste, plain, and rippled organdy. The color is applied to the softer batiste section, and the organdy is printed with a white pigment to produce "negative" florals or leaves against a rippled background.



A mechanized army of 1,000,000 workers!

Lucky America to have a great Textile Industry to call on in this Emergency!

Here is a "mechanized army" of a million workers—a solid phalanx of 7,000 plants for spinning, knitting, weaving, bleaching, dyeing, finishing . . .

Producing all the textiles required for our armed forces plus a sufficiency of textiles for the "army in over-alls" fighting the Battle of Production . . . Textiles for Victory!

Only in its mechanical equipment is the Textile Industry vulnerable . . . only through deterioration of its machinery can textile production be slowed or quality of products lowered.

Engineers and superintendents are on guard against this . . . always are they on the alert—to keep their plants in the best possible state of efficiency.

Since 1820, the Butterworth Organization has served the Textile Industry in America—pioneering, building and improving machinery for the Wet End of Textile Finishing.

Today, while Ordnance production has first call on our facilities, we are still building Textile Machines as required in America's great War Program.

H. W. BUTTERWORTH & SONS CO.
Main Office and Works, Philadelphia, Penna.
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In Canada: W. J. Westaway Co., Hamilton, Ont.

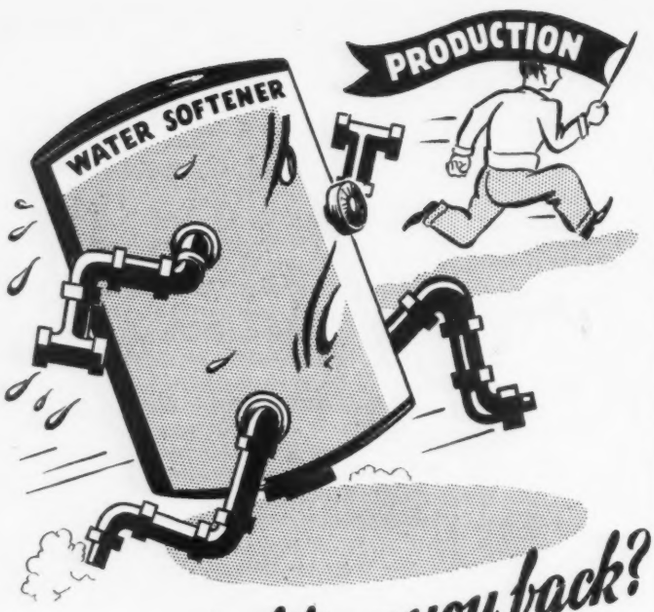
***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY



What's holding you back?

In the race with America's all-out production schedules these days an antiquated or inefficient water filter or softener can slow you down to a dog-trot. This is especially true if you're working under the critical eyes of Government buyers . . . You haven't the time and we cannot readily get all of the various materials to replace with *completely new* equipment. But for many mills we have overcome both these difficulties with a

Free Inspection and Check-up Service

Upon request and without cost to you, our local representative will examine your water softening or filtering equipment inside and out and give you a full report on its capacity, its mechanical condition and its present operating efficiency. You are not obligated in any way to purchase a dollar's worth of equipment or material even though his survey and recommendations result in definite operating economies. The time is short . . . write today to—

HUNGERFORD & TERRY, INC.

Mfgs. of WATER FILTERS and WATER SOFTENERS

CLAYTON, NEW JERSEY

WATER PURIFICATION PLANTS

THIS LONG COAT ensemble makes successful use of sheer rayon crepe. The fabric is woven with Crown-Tested yarn. The softened lines of the garment are a step away from the mannish vogue, and offer a style to which the rayon crepe is well adapted.

dent; Sam Weiner, Mode Knitting Mills, Chicago, second vice-president; Max Karger, Eagle Knitting Mills, Milwaukee, secretary-treasurer; Kenneth Newberger, Royal Knitting Mills, Chicago, director-at-large, and H. L. Ashworth, Milwaukee, business manager.

Growers Urged to Produce Longer Staple Cotton

Early in February plans to encourage cotton growers to shift from the planting of short-staple cotton to that of a longer staple, were initiated by the Department of Agriculture. The principal means of encouragement was the increase of premiums on longer staples under the 1942 loan program of the Commodity Credit Corp. Special care in picking and ginning is urged in order to secure the highest possible grade.

A.A.T.C.C. Notes

Kenneth H. Barnard, of Pacific Mills, will again serve as chairman of the technical program committee for the annual meeting of the American Association of Textile Chemists & Colorists. The meeting will be held under the auspices of the Philadelphia Section at a date to be selected during the last three months of 1942 either in Atlantic City or in Philadelphia.

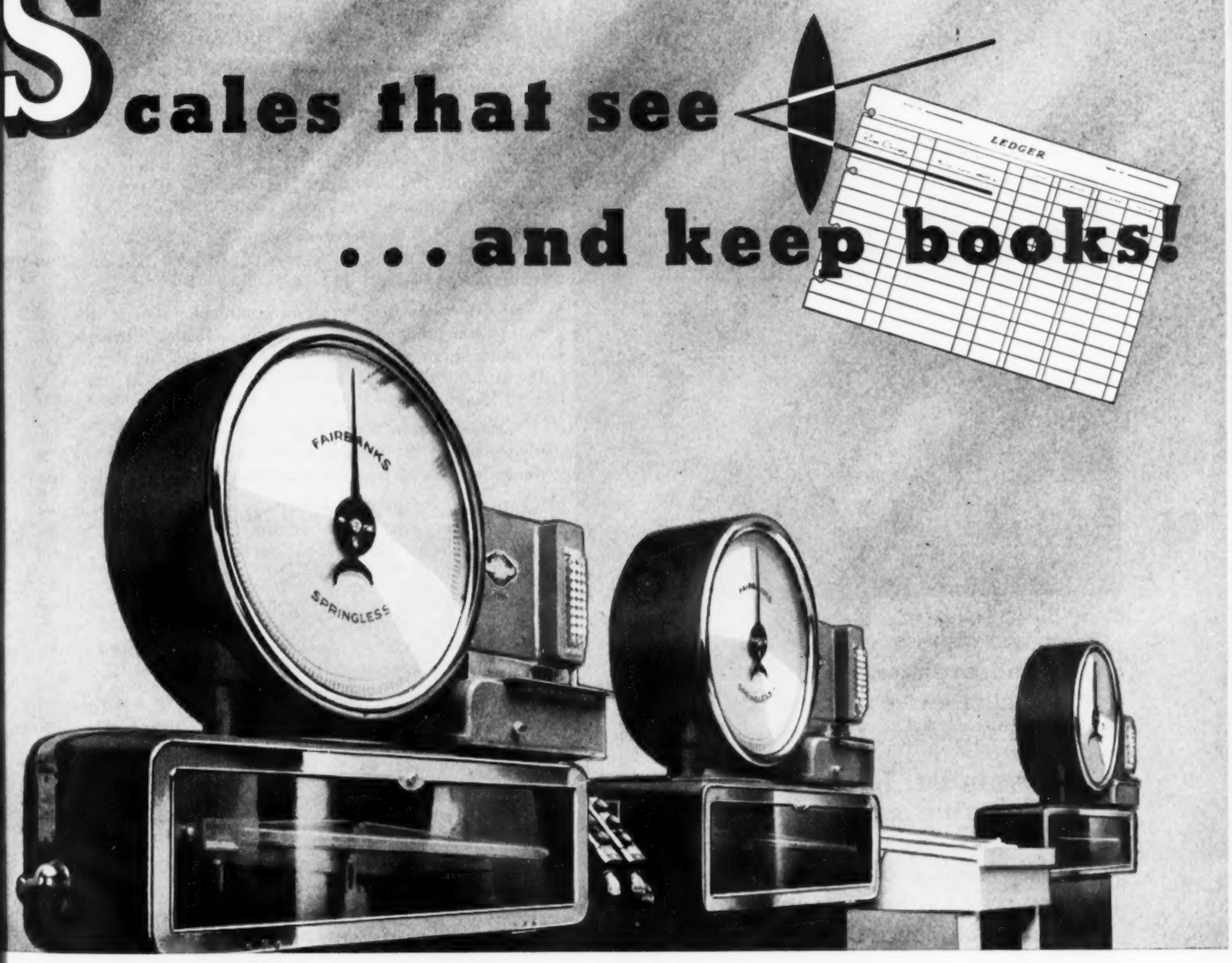
Dr. Robert E. Rose of E. I. du Pont de Nemours & Co., Inc., spoke on the subject "How Dyes Dye," at a meeting of the New York Section held Feb. 27. At a meeting of the South Central Section held in Chattanooga, Tenn., on March 7, P. J. Wood, of Royce Chemical Co. spoke on the subject of "Hydrosulphites."

This and That

"Bed Linen" as used by the OPA in recent price ceiling orders covering cotton sheets, pillowcases, etc., has been declared a misnomer. The Linen Trade Association has sent a protest to Administrator Henderson.

Large scale production of Nylon parachute cloth will begin in the near future. Several conferences have taken place

Scales that see ...and keep books!



IT costs money to be inaccurate with "tonnage"—and it costs more money to be s-l-o-w.

In one of the most modern coal preparation plants in the world, Elkhorn Coal Company, Wayland, Ky., you will find a battery of the most modern scales handling "tonnage" at high speed.

These Fairbanks Scales with "electric eyes" shut off flow to hoppers automatically when the pre-set weight is obtained. A printed record is made of each operation automatically, and an ingenious keying system credits the tonnage to the man who mined it.

To make errors in weighing well-nigh impossible, to fit weighing speedily into the production flow, to protect alike the buyer, seller, and all whom weighing affects is the aim of this, the most experienced and most modern organization of scale makers.

There are Fairbanks Scales in types for your every weighing need... and Fairbanks Scale Engineers are available at your call.

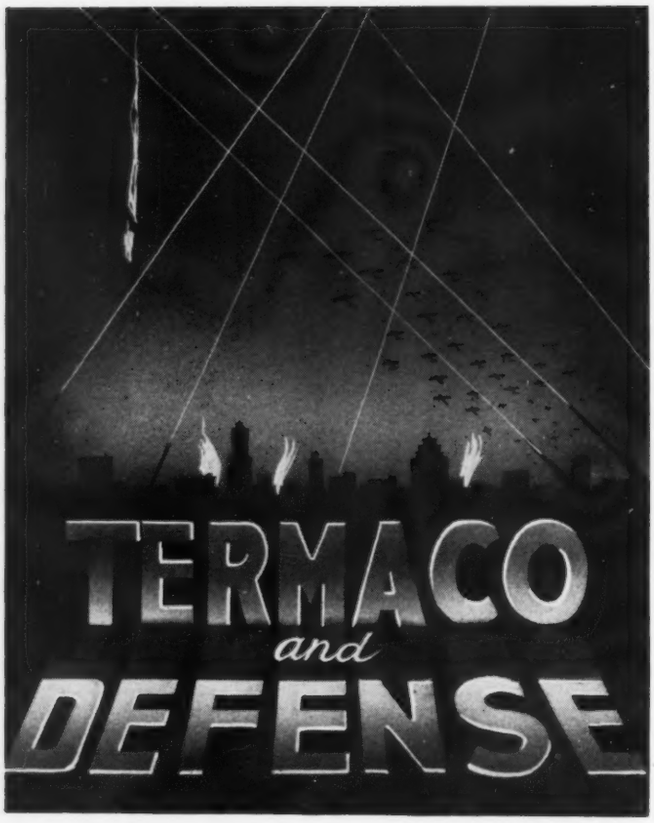
Fairbanks, Morse & Co., Dept. C-204, 600 S. Michigan Ave., Chicago, Illinois. Branches and service stations throughout the United States and Canada.

We Want To Help You

It is our desire to do everything we can to aid in the speed-up of American production. Our scale engineers can possibly suggest new and more efficient use of your present scales or modification which will expand their capacity.

FAIRBANKS·MORSE FAIRBANKS SCALES **SCALES**

DIESEL ENGINES ELECTRICAL MACHINERY RAILROAD EQUIPMENT WASHERS-IRONERS STOKERS
PUMPS MOTORS WATER SYSTEMS FARM EQUIPMENT AIR CONDITIONERS



For two generations, the skill, ingenuity and experience of the Terrell organization have been devoted to the textile industry.

Today, in the Terrell plant men and machines are geared to top-speed production, to provide not only the necessary textile equipment, but to do their part in the production of armament for National Defense. The entire resources of the company are pledged in full measure to the task ahead— to keep our armed forces supplied with ever-increasing quantities of the parts we are making for Defense—and to fill the textile industry's expanding demand for TERMACO products.

The **Terrell Machine Co.,** *Inc.*

CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J. . . Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . . . Canada
Geo. Thomas & Co., Manchester, Eng. . . . . European Agent

between Army Air Corps officers and executives of weaving mills. A few weavers have been working on Nylon parachute cloth experimentally for the last two years, and it is believed that these companies will supply technical advice.

War Production Board has mailed to cotton mills a series of forms covering production, unfilled orders, and productive equipment, and to rayon weavers the form on equipment, as of Feb. 28, 1942.

Bigelow-Sanford Carpet Co. is now selling certain lines for Colonial Drapery & Curtain Mfg. Co. in territories not covered by Colonial's salesmen.

A new rayon staple fiber, designed for use in rugs and carpets and known as "Tufton," has been announced by American Viscose Corp.

To determine the prevailing minimum wages in the aviation textile products manufacturing industry, a hearing will be held before the Public Contracts Board in Room 3229, Department of Labor Building, Washington, D. C., at 10 a.m., March 24, 1942.

National Cotton Week, to be held from May 15 to 23, will be devoted in the main to furthering civilian adjustment to the necessities of wartime restrictions.

A printed compilation of priority orders and forms is now available for distribution at the Public Service Section, Inquiry Division, Room 1501, Social Security Bldg., Washington, D. C.

Pacific Mills reports net profits for the fiscal year ended Jan. 31, 1942 as $2,696,750, which compares with the net loss of $348,310 for the previous fiscal year. Net sales for the recent year totalled $69,604,071, against $50,286,765.

Foreman Fabrics, New York, has launched a new line of rayon prints for spring and summer on Crown-Tested rayon crepes, which are based on the various items of *Harper's Bazaar* nationally known nine-day wonder diet. Fruits, vegetables and even cutlery are inspirations for the designs.

American Viscose Corp. reports that the entire output of Rayflex, a high-tenacity rayon yarn, is now being used for making self-sealing gasoline tanks for military airplanes and tire cords for heavy-duty tires.

Heavy rainfall in Georgia in late February was reported to have added nearly seven billion kilowatt hours of power to the hydro-electric reservoirs in that and nearby States, which addition has gone a long way toward bringing these resources back toward normal.

Callaway Mills has opened its new line of bath towels, chenille rugs and tufted rugs for the 1942 season. The firm has, however, closed its drapery department due to defense orders, and that line of production will be suspended.

Wage and Hour Division of the Department of Labor started its removal from Washington early last month, and opened its new offices at 1560 Broadway, New York on Feb. 17. Approximately 100 trucks were needed to move the office. L. Metcalfe Walling has been nominated to succeed T. W. Holland as administrator.

Athens (Ala.) **College,** where a full-fashioned hosiery mill was set up to permit students to work their way through school, has started a campaign to seek worn-out silk and Nylon hosiery which will be backwound to obtain material to run on the machines for manufacture of new hosiery.

Margate Hosiery Mills has announced development of an attachment to knit elastic top socks without the use of rubber yarn.

Federation of Dyers, Finishers, Printers, & Bleachers of America has decided to request an upward rearrangement

How you can get

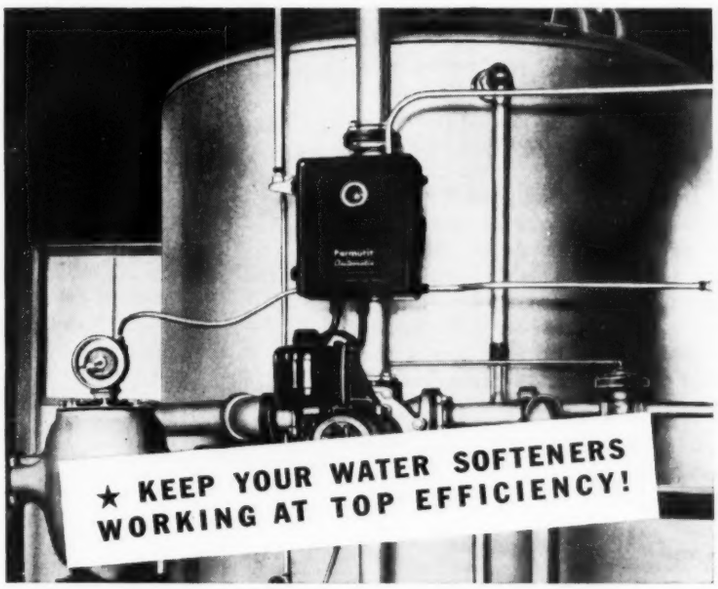
MORE SOFT WATER FROM THE EQUIPMENT YOU HAVE

New water conditioning equipment to handle increased production loads is difficult to get. So it's more important than ever to make sure that your present installation is working at full capacity. That means especially:

1. That the water you get will be as soft as your equipment was originally designed to deliver.
2. That your softeners will produce the full rated capacity of soft water between regenerations.
3. That regeneration will require no more salt than when the equipment was installed.

Permutit* is ready to help you get this performance. As the world's largest manufacturer of water conditioning equipment, Permutit is particularly qualified to do this.

Often the addition of new zeolites will bring the output of your softeners up to maximum. This improvement can be made immediately as Permutit has on hand ample stocks of its famous zeolites.



Free chart makes it easy to check up on your equipment

For your convenience in finding out just how efficiently your softeners are working, Permutit has devised a handy "CHECK CHART." You simply fill it out and mail it to Permutit. Permutit experts will study it in the light of 29 years of experience and make recommendations. There is no cost or obligation connected with this service. Write for your "CHECK CHART" today!

WRITE TODAY FOR *FREE CHECK CHART*—

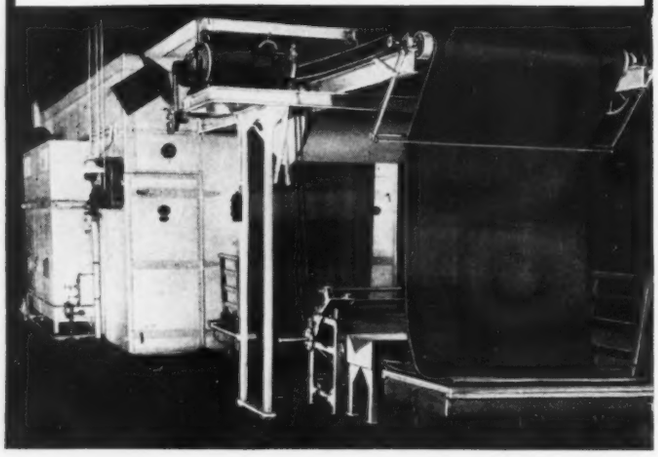
Take the first step toward more soft water *now*. Address: The Permutit Company, Dept. B, 330 West 42nd Street, New York, N. Y. In Canada: Permutit Company of Canada, Ltd. . . . Montreal . . . Toronto . . . Winnipeg . . . Calgary.

*Trademark Reg. U. S. Pat. Off.

PERMUTIT

WATER CONDITIONING HEADQUARTERS

restores natural moisture to fabrics . . .



● Whether it's jute for sand bags or woolens for clothing, maximum service from any fabric requires that the natural moisture which has been lost in processing and finishing operations be restored. Shown here is a REEVES-equipped "Brilsonair" air conditioner processing jute fabric, proofed against rot, to be used in making sand bags for protection of buildings in air raids. These machines are now in operation in many mills throughout the country. The REEVES Motodrive provides a wide range of speeds for feeding different types and weights of material through the conditioner. Any desired speed is available, smoothly, quickly, accurately, at the turn of a handwheel.

Catalog-Manual G-397 shows how REEVES Variable Speed Control is solving many other processing operations in the textile industry, and how it can be inexpensively installed on your machines. Write for it.

REEVES PULLEY COMPANY, *Dept. W*, COLUMBUS, INDIANA

ACCURATE VARIABLE Reeves SPEED CONTROL

Left to right: TRANSMISSION provides infinite speed adjustability over wide range, 2:1 to 16:1 inclusive; modern, compact, open and enclosed designs . . . VARI-SPEED Motor Pulley, simple, direct drive for requirements from fractional to 15 H.P.; 3:1 range . . . MOTODRIVE combines motor, speed varying mechanism and reduction gears.

of the wage scale, according to an announcement made late last month by Joseph W. Knapik, president of Federation.

More than 500,000 used burlap bags have been returned to wool growers by textile mills as a result of an appeal from WPB. The Board is again urging all mills to return burlap containers as rapidly as they are emptied.

F. C. Atwood, vice-president of Aralac, Inc., spoke on the development of casein fiber at a meeting of the American Association of Textile Technologists, March 4, in New York.

Textiles Face Increasingly Tight Market

Cotton goods trading continued through February on a limited scale as manufacturers hesitated to go beyond the selling of nearby lots. Uncertainty about Government needs makes the future of any civilian lines uncertain, and buyers are getting reconciled to the fact that they must take what they can get or find a substitute. Yarn houses are limiting civilian commitments to about three months. No duck is to be sold by suppliers without a preference rating on the order of A-1-j or better, except for certain types when lighter than 8 oz. to the yard of 29 in. width.

Wool goods buyers and sellers are feeling the pinch of the war situation in the order sharply restricting the new wool which may be put into civilian goods for the second quarter. Unquestionably mixes with reworked wool and other fibers must be utilized if mills are to continue turning out a worthwhile yardage for their regular customers. The future is so uncertain that most makers have abandoned their ordinary attitude toward seasons and it is probable that the trade will progress on a four season basis, taking each quarter as it comes. The "all-wool" policy of many houses may have to go by the board. There is already growing sentiment favoring the repeal of the Wool Labeling Act for the duration.

Rayon allocations will not be put into effect for April, it now seems, although many expected them. Hosiery mills, of course, are proceeding on allocation basis, but weavers are getting their share in the usual manner. All rayon gray-goods are now under ceilings. All stocks of raw silk in the country are now in the hands of the Government. Courtaulds (Canada) Ltd. late in February reduced all yarn 2¢ per lb., putting the material back to the basis as of Dec. 1, 1939.

Hosiery buyers were stimulated to rush orders to the market when word came from Washington that ceilings might be put on rayon hosiery. The buyers were satisfied with the values and late in February were taking more interest in rayon full-fashioned and seamless for women than they had done at any time since silk dropped out. The setting of price ceilings on Nylon hosiery by OPA was said by that office to have transferred speculative interest to rayon, and a study was being made to find whether or not a ceiling might be necessary there. Half hose has been active and knitters are apportioning their available output.

Underwear buyers are getting less and less from mills, and, with increasing Government business, the situation is likely to become much tighter. There was considerable spot demand during February, and jobbers have been receiving many calls from retailers who formerly bought from mills.

Outerwear makers have been completing their fall lines, but because of various restrictions are not taking commitments on the more distant production. Items in the higher price brackets are attracting buyers. Because of expected scarcities of other kinds of clothing it may be that the latter half of 1942 will prove an unexpectedly good sweater season.

HUNTER

Continuous Range Cloth Carbonizing

BULLETIN CC

The Newest Advance in Carbonizing Operation Consisting of A Modern Hunter Wetting Out Tank, Acid Tank, Vacuum Extracting System and Carbonizing Dryer Operating as a Synchronized Unit with Patented Range Drive

NOT only in fulling, washing, stock and tenter drying but Hunter equipment made tremendous strides during the past few years. There is now available our new Cloth Carbonizing Unit that largely eliminates costly repairs and upkeep, enabling finishing rooms to carbonize cloth uniformly and continuously at the highest possible hourly production compatible with high quality.

This modern Hunter Unit consists of a Wetting Out Tank with a Vacuum Extracting System, an Acid Soaking Tank with a Vacuum Extracting System, Dryer and Carbonizer. With this up-to-date unit, any mill can simplify and improve its cloth carbonizing as explained in the following pages.

Supplement to Bulletin CC

HUNTER

Continuous Range Cloth Carbonizing

THE REQUIREMENTS

For Successful Piece Carbonizing

FREE

TO ANY MILL MAN . . .

***regardless of what unit he now operates . . . who is interested in reducing* CARBONIZING COSTS**

TWO innocent looking booklets . . . charged with money-saving ideas for the mill man who reads them and applies the data they contain. Both are heavy with helpful information. They are practical and to the point.

Hunter's Booklet on Piece Carbonizing contains eight pages of text and illustrations. It will tell any mill man—regardless of what unit he now operates—how he can reduce costs and definitely increase the dollar value of his carbonized goods.

The booklet on the left is a most important aid to any mill contemplating or now doing piece carbonizing. It outlines clearly and fully the commercial and mechanical requirements for satisfactory carbonizing.

Hunter's new brochures on fulling and cloth scouring have several important pages of text and illustrations describing the means and method whereby:

(a) some six score mills have increased Fulling loads 50-100% and reduced Fulling time one-third or more, and

(b) substantially cut Rinsing time; save soap, water, and labor.

I certainly am interested in reducing my costs. Please send the following without obligation:

. . . Brochures on Carbonizing

. . . Brochure on Fulling and Scouring

. . . . Data on Stock and Tenter Drying

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USE SOLVAY TRADE MARK REG. U. S. PAT. OFF. SODIUM NITRITE U. S. P.

SOLVAY SODIUM NITRITE is produced in fine, free-flowing crystals of extremely high quality and purity. It is a product of U.S.P. Grade that is especially suited to the manufacture of azo dyes.

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Alkalies and Chemical Products Manufactured by The Solvay Process Company

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SOLVAY SALES CORPORATION
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NEWS ABOUT MEN

William Whitfield Sledge, counsel and a director of Durham (N. C.) Hosiery Mills for several years, has been elected president to succeed the late Austin H. Carr.

D. W. Anderson, Spartanburg, S. C., treasurer and vice-president of Monarch Mills, has been elected president of that company. He has been succeeded by **W. A. L. Sibley,** Ware Shoals, S. C. Mr. Anderson succeeds **H. A. Hatch,** of New York, who remains a member of the board. Mr. Anderson is also president of Pacolet Mfg. Co. Mr. Sibley has resigned as vice-president and general manager of Ware Shoals (S. C.) Mfg. Co., to join Monarch Mills.

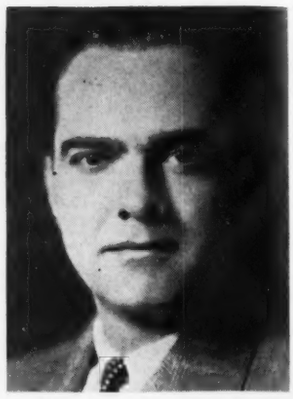
Frank W. Tillinghast, president and one of the founders of Tillinghast Stiles Co., Providence yarn dealers, is this year celebrating both the 50th year of his firm and his own 50th year in the office of president. The company has New York and Chicago branches.

John A. Miller retired as of Mar. 1 as president of Exposition Cotton Mills after 12 years with this company. Mr. Miller is a member of the board of directors of Cotton-Textile Institute, and, during the term of 1940-41, was president of Cotton Manufacturers Association of Georgia. **Geo. E. Glenn, Jr.,** has resigned as assistant manager of Pepperell Mfg. Co., Lindale, Ga., and is moving to Atlanta, Ga., where he will succeed Mr. Miller, as president of Exposition Cotton Mills.

Bernard R. Armour has been elected president of Hartford Rayon Corp., Rocky Hill, Conn. Other officers elected follow: **Charles S. Fowler,** executive vice-president; **Louis F. Dettenborn,** vice-president; **Alexander C. Grabowski,** assistant treasurer; **Hubert F. Young,** assistant treasurer; **Arlen G. Swiger,** secretary; **Katharine A. McCarthy,** assistant secretary; **Newton B. Schott,** assistant secretary.

Harry C. Smith, in charge of print cloth sales for Deering, Milliken & Co., New York, has been elected vice-president, and **Charles Bettramini,** in charge of woolen sales, has also been elected a vice-president.

Robert E. Gregg has been made branch manager of the eastern sales office of Kendall Mills, at 40 Worth St., New York, succeeding the late Alec Nash.



William W. Sledge

John A. Spooner, advertising manager of American Viscose Corp., New York, has resigned. He joined his father's company, the Century Underwear Co., after his graduation from Philadelphia Textile School. He later had experience in selling cotton goods and in advertising as representative of the Curtis Publishing Co. He later joined N. W. Ayer & Son as an account executive and was given charge of Viscose company's advertising. Mr. Spooner has been intimately associated with the company's quality control plan under the "Crown Tested" slogan.

John A. Beard has been reelected president of Wooltex Knitting Mills, Mifflinburg, Pa., at a reorganization meeting. Other officers chosen are **Ernest Rosenberger,** vice-president in charge of sales; **C. D. Elmes,** vice-president and general manager; **Ernest Watson,** treasurer, and **George B. Klingman,** secretary.

Karl Robbins, president of Colonial Mills, New York, and a pioneer in modern rayon-textile development, was tendered a testimonial dinner by his associates and friends in New York last month on the occasion of the thirtieth anniversary of his entrance into this field.

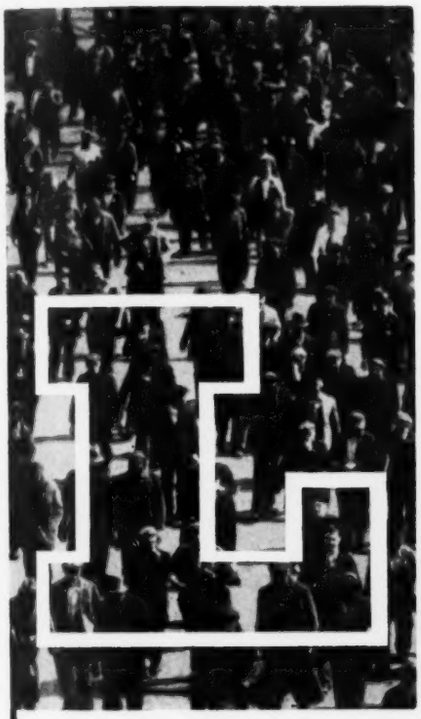
Raymond E. Baldwin, Stratford, Conn., formerly governor of Connecticut, has been elected a director of the Russell Mfg. Co., Middletown, Conn.

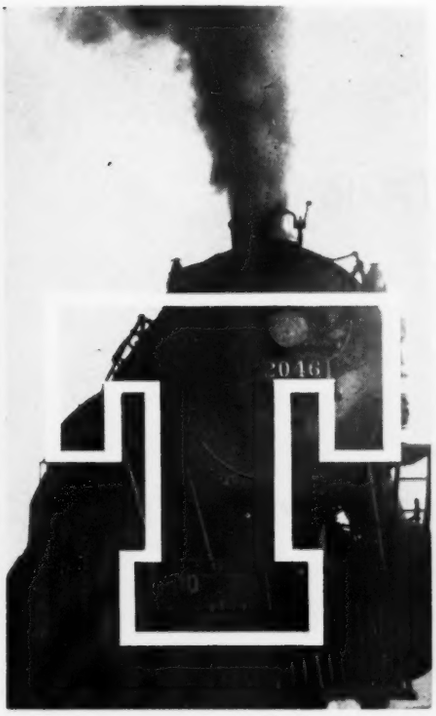
Ernest B. G. Piggott has resigned as general manager and vice-president of Greenville (N. H.) Mills, to become general manager and treasurer of Peterborough (N. H.) Mills, which recently purchased the manufacturing property of White Bros. in Peterborough for the manufacture of rayon

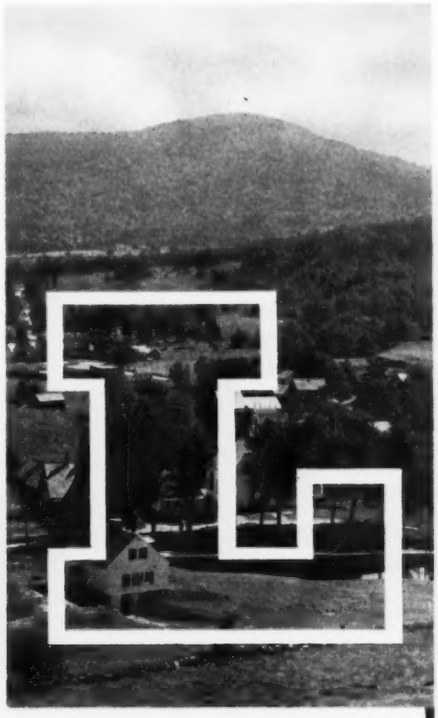
Let Manchester's L. T. L. Give You Smooth Plant Operation

LTL symbolizes the superb Labor, Transportation and Living Conditions that encourage smooth and profitable plant operations in Manchester, N. H. Every factor of our community life, here in this great industrial community, joins hands to help busuiness operate successfully.

You will find both State and City governments whole hearted in their cooperation; a friendly and enlightened point-of-view on the part of labor. wholesome church influences; and strong, helpful local financial institutions. Why not tell us what you want and we will tell you what we have?







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You can hire your help on the spot. Easily trained because Manchester workers are native born, intelligent and better educated. Wholesome labor conditions.

TRANSPORTATION

Ideally-located for shipping on the main line of the B & M from Boston (55 mi.) to Montreal (270 mi.) Handy to Portland and Portsmouth. Overnight freight to New York. Air service, too.

LIVING CONDITIONS

A fine, modern city in beautiful country surroundings. Good housing, excellent schools, churches, stores and theatres. You can live better for less money.

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You can buy or rent, at low prices, with a choice of occupying entire buildings, or sharing tenancy. Heavy brick mill construction, wide bays, sprinklers, fire walls and railroad sidings. Ample low cost power, gas for industrial purposes, heat if desired, and excellent city water.

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STARCHES
You Need

for Every
Textile Purpose

- Pearl Corn Starch
- Thin-Boiling Corn Starches
  (all fluidities)
- Corn Dextrines
  (white and yellow types)
- Corn Gums
  (for printing and finishing)
- Fiberjel "V"
  (for Filament Viscose Sizing)
- Fiberjel "SR"
  (for Spun Rayon Sizing)

Our Textile Chemists can help you obtain the results you want. Their services are at your disposal.

NATIONAL STARCH PRODUCTS Inc.

820 GREENWICH STREET, NEW YORK

STUART W. CRAMER, JR., of Cramerton Mills, center, elected to the steering committee of the National Association of Manufacturers' newly organized war committee. At left is MALCOM MUIR, of "News-Week," chairman of the committee; he was formerly president of the McGraw-Hill Publishing Co. At right is R. J. WYSOR, of Republic Steel Corp., also on the steering committee. The photograph was taken at the New York meeting of N.A.M. on Feb. 26.

fabrics. **Daniel Pytko,** who became superintendent of the Greenville Mills a year ago, has become general manager of the firm's factories in Greenville and New Ipswich.

W. Ray Bell was re-elected president of the Association of Cotton Textile Merchants of New York at the directors' meeting held Feb. 13. Other officers were also re-elected.

C. R. Marvin, for 24 years New York representative of the Utica Willowvale Bleaching Co., Chadwicks, N. Y., has resigned. Mr. Marvin entered the business in 1899 with Silver Springs Bleachery, Providence. He is succeeded by **James H. Lamb** who joined the firm last August. Previously he was for 11 years with Dutchess Bleachery, Wappingers Falls, N. Y.

Frank E. Vantine has resigned as treasurer of Republic Cotton Mills, Great Falls, S. C.

Flint Garrison has been appointed consultant on wholesaling for the textile and leather goods division of OPA. Mr. Garrison was at one time director general of the Wholesale Dry Goods Institute, New York.

W. P. Fickett, president of the Textile Fabrics Association, New York, has been elected vice-president of the Arkwright Club, New York, for 1942.

George D. Dickson has become associated with Lawrence (Mass.) Print Works in a sales capacity in New York.

W. N. Banks, president of Grantville (Ga.) Mills and president of the American Cotton Manufacturers Association, has been elected a director of Firemen's Mutual Insurance Co., Providence, R. I., succeeding **E. W. Swift,** president of Muscogee Mfg. Co., Columbus, Ga., who resigned after serving for many years.

H. W. Rose, head of the staple-fiber sales division of American Viscose Corp., New York, has been transferred to the company's head office in Wilmington, Del., where he will take charge of the Research and Planning Department of the corporation. Mr. Rose joined American Viscose in 1924 in charge of sales for the southern territory. In 1925 he established the first rayon sales office in the South in Charlotte, N. C., and in 1932 returned to New York. Mr. Rose is succeeded as head of staple fiber sales by **William N. Chace.**

Hiram T. Nones has been named as acting chief and consultant for the Textile Staff recently established by the Bureau of Foreign and Domestic Commerce in the Division of Industrial Economy. **Carroll L. Wilson** is Bureau Director.

E. S. Dunlap, superintendent of dyeing and finishing at Belle Knitting Corp., Sayre, Pa., has resigned to become manager of Snow White Bleachery, Royersford, Pa.

S. Frank Jones, for several years purchasing agent for Gossett Mills and associate groups, with headquarters in Anderson, S. C., has been promoted to secretary and assistant treasurer, succeeding **Chris Suber,** who has been connected with the mills for the last 30 years, and who has resigned on ac-

A Recent Installation of Four SARGENT STOCK DRYERS
in a Progressive New England Worsted Mill

A Production Problem Solved -

• • • THIS IS THE IMPORTANT FACT!

Advantages of this modern installation

— Stock dried at lower temperatures — The use of low pressure steam
— Lower power consumption — Less floor space required
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Why not let SARGENT solve your Drying troubles?

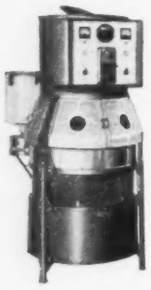
Important Defense Items by SARGENT	Machines for Smokeless Powder Plants • Machines for Synthetic Rubber Plants • Textile Machinery for the manufacture of uniforms • Machined parts for large caliber guns

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

It's already
"DAY AFTER TOMORROW"

There's no time now for prolonged outdoor sunfast tests, yet government specifications demand strict assurance that textiles you make or buy meet rigid standards.



The **ATLAS FADE-OMETER** takes you "off the spot". It equips your laboratory with the means of making quick, accurate, reproducible measurements of the effect of sunlight on your materials. Effects that take months outdoors are accomplished in days with the Fade-Ometer under full laboratory control.

Atlas also makes the Launder-Ometer and Weather-Ometer.

And these tes's are so dependable that they meet U. S. Bureau of Standards, and A.A.T.C.C. requirements.

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NEWS ABOUT MEN

count of ill health. **C. G. Seabrook** of Anderson, succeeds Mr. Jones.

Edward F. Walker, secretary-treasurer of the Rhode Island Textile Association, has been elected executive director of the American Lace Manufacturers' Association, Inc., according to an announcement by **George R. Ramsbottom** of Pawtucket, R. I., newly elected president of the latter organization. Mr. Walker will retain his post with the R. I. Textile group. He will succeed **H. R. Giblin** of New York, who has resigned to enter private law practice. Offices of the lace organization will be moved from New York to Providence.

William H. Ruffin, who has been secretary-treasurer of the Erwin Cotton Mills Co., Durham, N. C., has been elected vice-president and treasurer.

Carl R. Harris, who has been serving as assistant secretary-treasurer, was elected vice-president and assistant treasurer. **E. G. McIver** was elected secretary and **M. A. Gregory** was elected assistant secretary. **K. P. Lewis** was re-elected president of the company.

Luke M. Charde has been named representative in the St. Louis territory for Pacific Mills.

G. Howard Smith, assistant superintendent of Pepperell Mfg. Co. at Lindale, Ga., since 1937, has been elected superintendent, taking over the duties of **George E. Glenn, Jr.,** who resigned recently. **Robert McCamy** has been made assistant superintendent of Pepperell Mfg. Co.'s Lindale plant. He was formerly in charge of dyeing.

O. C. Temperton, of Dunnville, Ont., has been elected president of the Canadian Association of Textile Colorists and Chemists.

H. L. Lodish, regional attorney for the National Labor Relations Board in Cleveland since 1935, has been appointed counsel for the Industrial Rayon Corp.

Richard W. Freeman, New England sales manager for Pepperell Mfg. Co., has joined OPA as textile representative in New England.

C. C. Holmes has become assistant to **Henry C. Harden,** superintendent of Chicopee Mfg. Corp. of New Hampshire, at Manchester, N. H.

Bartow H. Underhill, advertising manager of Pacific Mills, New York, recently obtained his air pilot's license.

William H. Stonaker, vice-president and treasurer of Mill Factors Corp., New York, has been elected president succeeding Max Yankauer, who continues as chairman of the board.

Fred A. Krafft, director of industrial relations of American Viscose Corp., New York, has been appointed as associate member of the War Labor Board.

Ross M. Pfalzgraff has been appointed assistant chief engineer of American Viscose Corp., New York. For the last year he has been acting as assistant to **H. O. Davidson,** the company's chief engineer.

R. T. LeGrand has been appointed executive vice-president as well as treasurer of Shelby (N.C.) Cotton Mills.

Patricia M. Playter, former decorative consultant for Columbia Mills and prior to that lecturer for the Irish and Scottish Linen Guild, has joined

AT THE SPEAKERS' TABLE of the Philadelphia Textile Alumni Association's recent banquet—(left to right) Alexis I. Sommaripa, now of WPB, lately of Rayon Division, E. I. du Pont de Nemours & Co., who spoke; Clarence Ederer, president of the Alumni Association and treasurer of Ederer, Inc., who presided; Paul Hartenstein, of the Philadelphia OCD, who also spoke; M. Earl Heard, dean of Philadelphia Textile School. The large numeral "356" is part of the school's service flag from World War No. I which hung behind the speakers' table.

TOUGH SHELL TEXTILIS OILS

NEW EQUIPMENT is getting scarcer every day . . . maximum production is being demanded from your present machines. It's tough going—but Shell Textilis Oils can take it!

You'll find Shell Textilis Oils possess excellent lubricating qualities, are non-gumming, highly adhesive, stay in the bearings. Shell Textilis Oils also are easily removed from fabrics during the finishing operations. They give you a clean and thorough lubrication job.

WHY ACCEPT LESS? CALL IN SHELL TODAY.

SHELL

RELIANCE V•S DRIVE

AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE for A-C. CIRCUITS

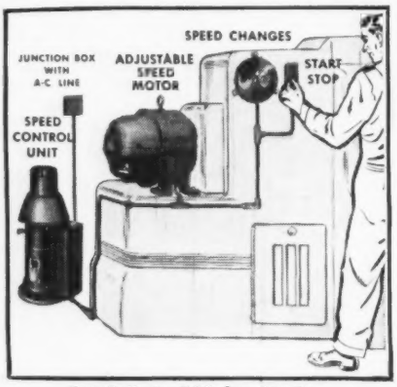
Speed Ranges up to 16 to 1
Sizes—1 to 30 hp.

1 SPEED CONTROL CONVENIENCE WITHOUT LIMITATIONS. Start-stop button and speed-changer go at any handy point to which you can run a wire. Control is within easy reach.

2 DIRECT DRIVE. You need fewer parts (no intermediate speed-adjusting device) and less space. Streamline your machine design! Get your power closer to where your power is needed.

3 FROM A. C. POWER SUPPLY. You enjoy many advantages at a new low price due to the "packaged" V•S Speed Control Unit. Mount it anywhere. Connect it by three wires to a 3-phase a-c. circuit.

Other production aids: Quick stopping, reversing, speed-setting, safe speeds for threading, ample starting torque with smooth acceleration.



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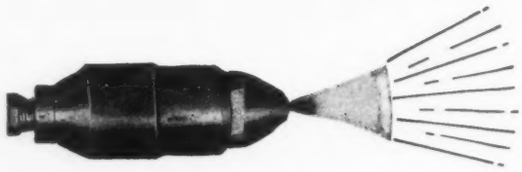


The Rihco Type B Atomizer

Today, the goal of every mill is maximum production with lowest waste. Material must be conserved, schedules maintained with highest efficiency.

A Rihco system of Type B atomizers boosts production, gives just the right humidity conditions, and does this at lower cost than ever before, because the Rihco principle of operation is based on a different way of vaporizing water, a way that requires far less air, far less initial equipment to obtain the same results.

R. I. Humidifier & Vent. Co.

Humidifiers Since 1912

99 CHAUNCY ST., BOSTON, MASS.

Aldrich Machine Works
Greenwood, S. C.

V. L. Sanderson, 1710 Walnut St.
Philadelphia, Pa.

NEWS ABOUT MEN

the retail merchandising division of the American Viscose Corp., New York. Her activities will include educational work on behalf of "Crown Tested" rayon garments and fabrics with retail managers, buyers, and sales people.

Paul V. Fabian, formerly with Uncas Finishing Co., Mechanicsville, Conn., has returned to the position of superintendent, succeeding **John V. Quinn.**

Daniel Paro has been appointed overseer of weaving at the plant of Swift River Woolen Mills, Stafford, Conn.

John S. Furtardo, formerly overseer of spinning at Richard Borden Mills, Fall River, now occupies a similar position at York Mfg. Co., Saco, Me.

Spratt Blankenship has resigned his position with Stowe Spinning Co., Belmont, N. C., and become assistant to overseer of spinning at Peerless Spinning Co., Lowell, N. C.

Russell H. Dupille, who has been industrial engineer with C. L. Stevens Co., of Maryland, has become assistant to the general superintendent of Shuford Mills, Hickory, N. C. **W. B. Shuford** is general superintendent.

Ward H. Bushee, former assistant agent of American Thread Co. in Holyoke, Mass., is returning to Western Massachusetts. He has taken a position with Bay State Thread Co., Springfield. He has recently been with American Yarn & Processing Co., Mount Holly, N. C.

Sam S. Howell, assistant personnel director of Avondale Mills, Mignon, Ala., has been added to the national staff of the American Red Cross.

Textile Men in Armed Services

R. C. Kramer, chairman of the board of Belding Heminway Co., New York, is now in the Army as a lieutenant colonel.

J. H. Ashbury, Jr., president of Margate Hosiery Mills, Chattanooga, Tenn., has been called for active duty as first lieutenant in coast artillery at Fort Eustis, Va.

Lieut. Col. Vere Painter, in charge of inspection at Philadelphia Quartermaster Depot, has been promoted to colonel.

Martin Coffyn, advertising manager of Chatham Mfg. Co., New York, has been commissioned lieutenant, junior grade, in Naval Reserve, aeronautical branch.

Alfred L. Landau, son of A. K. Landau, of Saco-Lowell Shops, until recently employed by the same company at its Biddeford plant has enlisted in the United States Marine Corps.

Henry C. Taylor, a partner in Taylor, Clapp & Beall, New York, has joined the United States Navy as lieutenant, senior grade, and is now on active service. Lieut. Taylor has three sons also in the Navy.

Charles Wolff, manager of the North American Rayon Corp. and American Bemberg Corp. rayon plants, Elizabethton, Tenn., has been called to active duty as major in the U. S. Army.

Dean Hill, Jr., son of Dean Hill, president of the Durene Association of America, New York, has been commissioned ensign in Naval aviation.

Lieut. Col. Thomas Brady, Jr., who has been public relations officer at the Philadelphia Quartermaster Depot, has been promoted to the rank of full colonel.

C. F. Wallace, sales manager for Greensboro (N.C.) Loom Reed Co., has joined the Army. He is succeeded as sales manager by **A. A. Brame.**

Samuel L. Diggle, Jr., who has been in the textile business in Charlotte, N. C., has been promoted from ensign in Naval reserve to lieutenant, j.g.

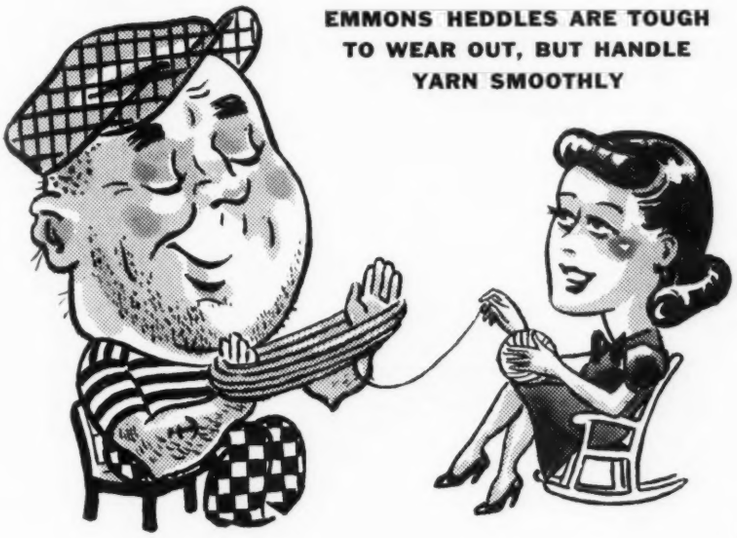
Preston S. Marchant, son of Thomas M. Marchant, president of Victor-Monaghan Mills, Greenville, S. C., until his death not long ago, is one of the 225 young men receiving Marine commissions as second-lieutenants after training at the Quantico, Va., base.

W. P. Crawley, for the last six months in the research department of Tennessee Eastman Corp., Kingsport, Tenn., has been called into active service as an army lieutenant and will be located at Camp Lee, Va.

C. H. Saunders, formerly of Lynchburg, Va., is the new superintendent of Newton (N.C.) Rayon Mill. Mr. Saunders replaces **Robert Poovey,** who has reported for active duty as a first lieutenant with the army at Fort McClellan, Ala.

Jack C. Childers, for the last 10 years a production official of Erlanger Cotton Mills, Lexington, N. C., reported for

Treats Yarn Like a Gentleman



EMMONS HEDDLES ARE TOUGH TO WEAR OUT, BUT HANDLE YARN SMOOTHLY

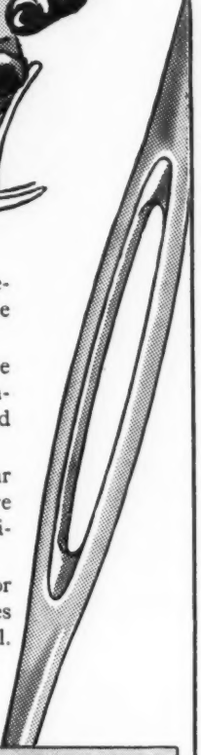
The *toughness* of an Emmons heddle cuts replacement costs. High tensile strength and durable rust-resistant coat keep it on the job longer.

The *smoothness* of an Emmons heddle eye guards production and cloth quality. Extra polishing of streamlined surfaces prevents yarn chafing and warp breaks.

To keep heddles "tough but never rough" year after year, Emmons' manufacturing processes are carefully controlled and sample heddles are periodically examined by a famous testing laboratory.

Write "Emmons" in front of your next order for steel heddles to get the *gentle* strength that saves replacement costs and keeps yarn strong and full.

BE CERTAIN . . . BUY CERTIFIED



YOU CAN *SEE* THE EXTRA SERVICE

An Emmons heddle frame has an extra number of rolled rivets that keep it extra-strong where extra strength is needed; the hand-picked, knotless lumber, with two coats of shellac; and the rust-proof metal that won't catch or discolor yarn. Strong construction reduces vibration, and there's no buckling and binding at the highest speeds.

GIVES YARN PLENTY OF ELBOW ROOM

For fewer loom stops, rejects and seconds, under the stress of continuous operation, you want a reed providing free warp movement, smooth yarn passage, without sacrificing rigidity. Emmons reeds are air-spaced up to 70% if required. So accurate is the spacing and so smooth the dents, that reed marks are avoided, while yarn inequalities cause no trouble.

"Inspected well before shipping" — by an Emmons inspector — is what this seal means on every shipment to you.

Be Certain . . . Buy Certified

EMMONS
LOOM HARNESS COMPANY
Lawrence, Mass. Charlotte, N. C.

EMMONS LOOM HARNESS COMPANY
Lawrence, Massachusetts . . . . Charlotte, North Carolina

Lawrence, Mass. and Charlotte, N. C. Products stocked in Charlotte and Lawrence. Reeds manufactured at both plants. Branch offices: Clifton Watson, Manager of Southern Sales, George Field, Plant Manager, Box 2036, Charlotte (Tel. Charlotte 3-7503) . . . Arthur Harris, Box 1982, Atlanta (Tel. Main 2643) . . . Alvin Braley, Box 236, Itasca, Tex. (Tel. 170) . . . W. S. Taylor, 171 Madison Ave., New York (Tel. Lexington 2-6060) . . . Albert R. Breen, 80 East Jackson Blvd., Chicago (Tel. Harrison 7140).

Argentina, Buenos Aires, Roberto Zander, 345 Juan Jaures; *Brazil,* Rio de Janeiro, A. Polak, Caixa Postal 362; *Chile,* Santiago, W. L. Robinson, Casilla 1570, Valparaiso; *Cuba,* Havana, J. M. Perez-Pena, Box 1611; *Mexico,* Mexico, D. F. Leo Lenk, Apartado 533; *Colombia,* Medellin, C. E. Halaby & Co., P. O. Box 139.

See latest TEXTILE WORLD YEARBOOK for details on all Emmons Products

EMMONS

For Greatest Economy
For Most Efficient
Performance

BLICKMAN

STAINLESS STEEL TEXTILE
DYEING EQUIPMENT

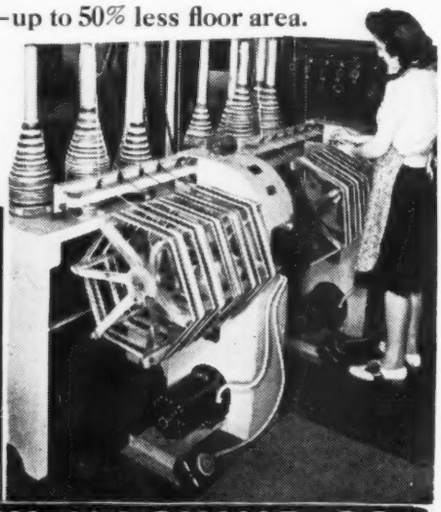
Dye Boxes, Linings, Cylinders,
Dry Cans, Rolls, Hoods, Tanks

S. BLICKMAN, INC.
300 GREGORY AVE., WEEHAWKEN, N. J.
EST. 1889
Specialists in Stainless Steel Textile Dyeing Equipment

***Faster Skein Reeling plus Savings with* FIDELITY TWIN-UNIT SYSTEM**

Five Outstanding Advantages:

1. Easier, lighter work for operator—no high lifting.
2. Greater output per hour—30 to 50 seconds doffing and clipping cycle.
3. Close control of skein weight and yardage.
4. Greater flexibility for changes in production, dye lots, yarns, etc.
5. Space saving—up to 50% less floor area.



These five and ten more advantages described in Bulletin 3909 on FIDELITY Skein Reeling Machines. Write for it.

OTHER FIDELITY MACHINES
Braiders
Backwinders
Circular Knitting Machines
Cylinders and Dials
5-Color Yarn Selector & Knot Tyer
Fringe & Tassel Machines
Giant Package Winders
Raschel Machines
Ribbers
Wire Covering Machines
Belt Loop Cutters
Pocket Folding Machines
Special Machines designed and built

FIDELITY MACHINE CO.
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active duty on Feb. 24, at Ft. Knox, Ky. He holds a commission as captain of infantry in Army Reserve.

Donald R. Green, treasurer of Holyoke (Mass.) Worsted Co., has been commissioned a major in the U. S. Army. He is awaiting call to active duty. Major Green fought with the A.E.F. in World War 1. He was formerly treasurer of the old Farr Alpaca Co.

Abner D. Potter, an official of the dyeing and finishing department of the F. F. Hosiery Division of Burlington Mills Corp., Greensboro, N. C., has been called into active service with the U. S. Army as second lieutenant in infantry.

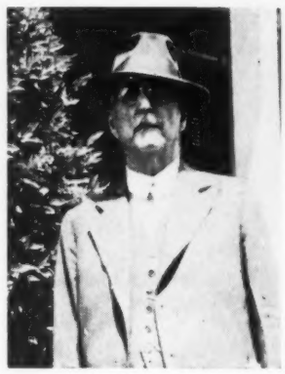
T. W. Anderson, overseer of the weaving department of the Locke Cotton Mills, Concord, N. C., has four sons serving the army as follows: **William Anderson,** Fitzsimmons General Hospital, Denver, Colo.; **James Anderson,** U.S.S. Wichita; **Thomas W. Anderson, Jr.,** First Repair Squadron, France Field, Canal Zone, and **Jack M. Anderson,** Co. A, 19th Infantry, Schofield Barracks, Honolulu.

J. A. Pinson, who has been in the purchasing department of Carter Fabrics Corp., Greensboro, N. C., has been called into active duty in the army, and **G. W. Fortune,** formerly with Cleveland Cloth Mills, Shelby, N. C., has been appointed to succeed him.

C. Fletcher Horn, of Celanese Corp. of America, Cumberland, Md., is now in active service as a lieutenant in the Army.

Obituary

William Coachman Vereen, 82, president of Moultrie (Ga.) Cotton Mills, died suddenly at his home in that town on Feb. 16. He was the founder or connected at one time or another with most of the industries in the town of Moultrie, including a large naval stores business, a tobacco warehouse, a barrel factory, a packing plant, a hospital, the Colquitt Hotel and the Moultrie Banking Co., of which he had recently been elected president for the 34th consecutive year. When he went to live in Moultrie there were 54 people there. The population now tops 10,000. He was active in civic and welfare work, and had been county commissioner, mayor and president of the Chamber of Commerce. In an interview in this magazine last October, Mr. Vereen indicated his success as an executive in the few words, "I didn't do anything but just help the other fellow make a living."



William C. Vereen

Jonathan Thayer Lincoln, 72, former president of Lincoln Mills, Fall River, died at his home in Cambridge, Mass., on Feb. 10. He was a member of the research department, Harvard Graduate School of Business Administration, as well as an expert on the history of the textile industry. He succeeded his father as president of the Lincoln Mills.

Marshall R. Abbott, for more than 40 years with Callaway Mills, and lately manager of that firm's Boston Office, died at South Weymouth, Mass. last month.

A. H. Patten, 62, secretary of American Finishing Co., Memphis, Tenn., until his retirement last April, died Feb. 21. He had been with the firm for nearly 30 years.

S. M. Smith, 77, president of S. Morgan Smith Co., York, Pa. died recently at his winter home in Palm Beach, Fla. He was the last of the three Smiths who founded and developed the company.

Bertrand A. Parkes, 72, former president and founder of the National Drying Machinery Co., Philadelphia, died Feb. 8. He had been associated with the finishing division of the textile industry since 1898, and for 18 years served as development engineer for Philadelphia Drying Machinery Co. He founded the National company in 1920. This business is continuing under the management of his son, Ralph C. Parkes, who has been an active

Photograph by Black Star.

FULLITIN ALSO LAUGHS AT LOW TEMPERATURES

- It permits soap to be used stone cold, preventing congealing, and thus eliminates the troubles that hot soap causes in fulling.
- Its mild, mellow action prevents creases, stuck places and whiplashes.
- It may be used in place of soap, if desired, eliminating the lengthy soap boiling operation.
- It quickly saponifies oil, grease and dirt, promoting more efficient scouring, and easily rinses out.

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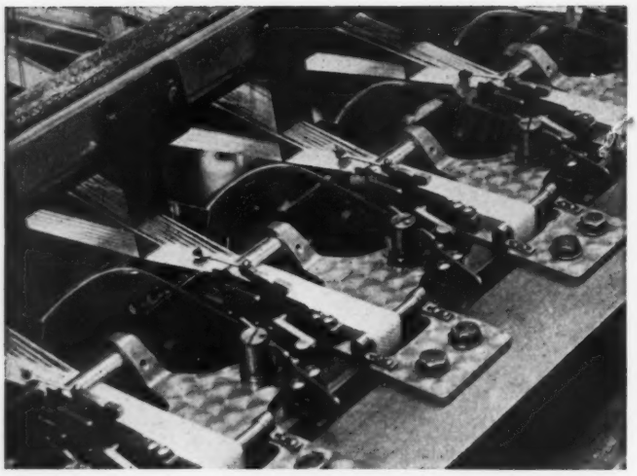


CLUTSOM HIGHSPEED LOOMS

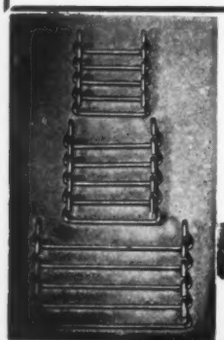
The most important manufacturers of Webbing, elastic and non-elastic, for the British Armed Forces use the Clutsom Loom. Before and since England went to war millions of yards of webbing have been produced on these machines for the use of the Services. If you have, or are interested in obtaining Defense contracts we suggest you let us explain to you the many advantages of this loom and give you a demonstration. But whatever you make in narrow fabrics the Clutsom loom will be of interest and value to you.

CLUTSOM MACHINES, INC.

250 WEST 54TH STREET NEW YORK

Telephone: Circle 6-8617

OPPORTUNITIES TO IMPROVE YOUR PRODUCT AND SAVE YOUR MONEY . . .



NARROWING CHAIN

Accurately made from high grade material—built to last and to hold its shape.

SINKER HEAD SLOT CUTTERS

The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

Send for bulletin giving full details on these and other products.

THE SINKER WITH THE HARDENED THROAT PATENTED AND THE HARD BUTT

GIVES YOU..

ESS BREAKAGE
ONGER SERVICE
OWER OPERATING COST
ONGER UNIFORMITY OF PRODUCT

THOMAS & SKINNER STEEL PRODUCTS COMPANY

1119 East 23rd Street Indianapolis, Indiana

NEWS ABOUT MEN

leader in the company since 1923.

D. George Dery, 75, who as head of D. G. Dery & Co. owned 42 silk mills in four States back in 1920, died Mar. 5 in Bethlehem, Pa. He had been retired from active business for the last 10 years.

Alan G. Wikoff, 46, editor-in-chief of the general publicity department of Union Carbide & Carbon Corp., New York, N. Y., died in White Plains, N. Y., on Feb. 11. From 1919 to 1925 he was associated with the McGraw-Hill Publishing Co.

John T. Johnson, 61, treasurer of the American Enka Corp., Asheville, N. C., since its establishment in 1928, died Feb. 1. Mr. Johnson came to Asheville from Pittsburgh.

R. Duke Cole, 87, chairman of the board of Arnco Mills, Newman, Ga., and formerly associated with Newnan Cotton Mills and other business enterprises of that city, died Jan. 27. Mr. Cole was for more than 30 years president of the R. D. Cole Mfg. Co., and had been active in the industrial development of Georgia.

B. F. Ruth, 50, inventor and former superintendent of Marion (N.C.) Hosiery Mill, died Feb. 16.

Henry C. Parker, 63, vice-president and secretary of John P. King Mfg. Co., Augusta, Ga., died last month. He joined the company in 1895.

John Dargan Hollingsworth, 64, manufacturer of textile machinery parts, died on Feb. 14 at his home in Greenville, S. C. Since 1895 he had specialized in the development of lickerins for cotton cards, on which he held a number of patents, and he was widely known as the originator of certain improvements in carding methods. His business will be carried on by his son, J. D. Hollingsworth, Jr., who was closely associated in it with his father for about 10 years.

John D. Hollingsworth

Frank G. German, 44, North Carolina district representative of Acme Steel Co. of Chicago for the last 17 years, died Feb. 16, in Charlotte, N. C. He was born in Yorkshire and moved to the United States when 27 years old.

Murray Rosenblatt, former assistant to the office manager of S. Stroock & Co., New York, has been reported by the Navy to be lost at sea. He was on the Pollux when it was wrecked off Newfoundland.

ELMER I. CAMPBELL, 41, assistant business manager of TEXTILE WORLD since he joined McGraw-Hill Publishing Co. in 1936, died suddenly Feb. 19 after a brief illness. He was popular with his associates and effective in his business, and his loss will be felt keenly. His early training accounted for his unusual versatility. After graduating from Clark University in 1922, he sold Fuller Brushes, taught school, learned his way around in publicity and advertising with the New York Telephone Co., handled marine oil advertising for Vacuum Oil, and advertising for Irving Trust Co. with which concern he also edited the mid-month review of business. He was with the sales promotion department of Underwood-Elliott-Fisher for three years before joining TEXTILE WORLD. In between these activities he had time to run a food store in the Catskills and to write short stories. He was active in municipal affairs of his home town, Yonkers, N. Y., and last year served as board chairman of the Homefield Civic Association. More recently he was senior air raid warden of the Homefield section of Yonkers. He is survived by his wife, a daughter Sandra, born Jan. 15, 1942, and his father, Walter Campbell.

COLUMBIA CHEMICALS

Helping Keep Production On Schedule **Victory depends not only on how much—but equally on how soon each part of the job is done. For our part, we are operating at the highest possible rate of production and maintaining to the best of our ability the quality of Columbia Chemicals. At the same time, we are expanding our facilities for producing these essential industrial materials. And the purpose of this two-fold effort is to make absolutely certain that Columbia Chemicals render the greatest possible service to all who use them.**

ESSENTIAL INDUSTRIAL CHEMICALS

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • LIQUID CHLORINE • SILENE* CALCIUM CHLORIDE • SODA BRIQUETTES MODIFIED SODAS • CAUSTIC ASH • PHOSFLAKE CALCENE** • CALCIUM HYPOCHLORITE

*Precipitated Calcium Silicate **Precipitated Calcium Carbonate

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY

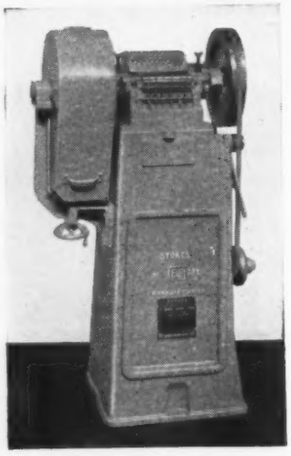
COLUMBIA CHEMICAL DIVISION

30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • CINCINNATI CLEVELAND • MINNEAPOLIS • PHILADELPHIA • CHARLOTTE

New! Universal Fibre Cutter

For Cutting Rayon, Silk, Wool Flax, Jute, Cotton Other Fibres



This is an improved machine . . . more accurate and productive, more flexible and economical . . . for wet or dry cutting.

•

It makes 500 to 20,000 knife cuts per minute . . . handles 4 to 8 tops or equivalent, simultaneously.

•

Instantly adjusted Variable Speed Drive, with synchronized feed, for any desired length of cut or type of material.

•

Full range of fibres, from 8" length to Flock, produced by four interchangeable cutter heads.

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Self-sharpening Knives, Tension Release for Feed, Hand Wheel Adjustments while Operating, Ball Bearings, Balanced Heavy-duty Cutters, Enclosed Motor, many other features fully described in New Bulletin 42-FC.

F. J. STOKES MACHINE COMPANY

6004 Tabor Road **Olney P. O.** **Phila., Pa.**

F.J.Stokes FJS Est 1895

CLOTH EXPANDERS
SCUTCHERS
IMPORTED LAPPINGS
DOMESTIC MACKINTOSH BLANKETS

PLEASE NOTE

We are anxious to supply all customers promptly; but, like you, we are 100% for the war program and if you have government contract numbers, please do not fail to supply them with your order to facilitate our meeting your emergency needs quickly.

3-Bar Leyland Mycock Regulating Rubber-Covered Expander for Wide Goods

Thomas Leyland Machinery Co., Inc.

Readville, Mass.

Addenda to Textile War Manual

(Continued from page 63)

Shearlings—Order M-94 supersedes a telegraphic order of Dec. 12, 1941, freezing all shearlings for war use, and releases for civilians shearlings not meeting military standards.

Silk, Raw—In a third amendment to Silk Order M-22, Feb. 10, WPB ordered that:

1. No sale of raw silk may hereafter be made except to and by the Defense Supplies Corp.
2. Until Feb. 23 silk previously purchased may still be delivered to parachute manufacturers, if available. After Feb. 22 all deliveries must be to Defense Supplies Corp.
3. After March 1, no silk may be used in the manufacture of parachutes until the grade and type has been approved by the Defense Supplies Corp.

Textile Machinery—On March 3, under an amendment to Preference Rating Order, P-53, WPB raised from A-10 to A-8 the preference rating of materials to producers of spare parts for maintenance and repair of textile machinery and equipment. The A-10 rating expired March 1 and has been extended until June 30. The textile industry has been operating on a 3-shift basis and demand for repair parts has doubled in the last 20 months. Suppliers also will be allowed to apply the A-8 rating to get deliveries of parts.

New Wool—WPB in an amendment to Order M-73, changes restrictions on the use of new wool for the second quarter, 1942, compared with the first quarter as follows:

1. No restrictions are placed on the amount of new wool used for defense orders in the second quarter.
2. On the worsted system the amount of wool permitted for civilian orders is reduced from 50% to 20% of each manufacturer's basic quarterly poundage.
3. On the woolen, cotton and felt systems the amount of new wool permitted for civilian orders is reduced from 40% to 10% of each manufacturer's basic quarterly poundage.
4. For floor coverings, no apparel wool is permitted and the amount of carpet wool is reduced from 50% to 25% of each manufacturer's basic quarterly poundage.

Order M-73 provides that fabrics used in officer's uniforms be classified as used in defense orders. The amendment gives such fabrics a priority rating of A-10.

Woolen Floor Covering Advisory Committee was formed by the Bureau of Industry Advisory Committees, March 3. William F. C. Ewing, consultant on floor coverings, Textile Branch, WPB, is Government Presiding Officer.

Women's apparel—An order soon to be issued will freeze the existing silhouette so that women's garments may not rapidly be rendered obsolete. Designers may work freely within W.P.B. limitations. Already a set of simplifications in men's apparel is in effect.

* * *

IN "PURCHASES" SECTION of the Textile War Manual in the February issue of TEXTILE WORLD, cotton balloon cloth was listed as bought by the Army Air Corps and certain Naval bureaus. It is also bought by the Philadelphia Quartermaster Depot for use in making sleeping bags. Recent advices are to the effect that there is possibility of substituting an acetate rayon fabric for this use. The cotton balloon cloth is not purchased by the Jeffersonville Quartermaster Depot.

SAFETY

for Rayons and Acetates is spelled:

THE enormous demand for woolen fabrics to outfit America's rapidly expanding armed forces has naturally focused unusual attention on the manufacture of rayon and acetate fabrics for civilian use.

Textile plants today are turning out a wide variety of fabrics woven from these man-made fibers. Fabrics using these fibers alone, and in combination with wool, cotton and linen. And it is not surprising that the processing of many of these new blended fabrics should introduce new problems.

If you're up against such problems in your plant, perhaps Olate can help. For this pure, neutral, low titer soap has exceptional detergent, lubricating, wetting out, and penetration properties.

And Olate is safe for every washable fiber and fabric.

Olate's fluid solutions penetrate fabrics rapidly and evenly . . . help assure even shrinkage and level dyeing. Its gentle action and free rinsing properties help safeguard rayon, acetate and union fabrics against streaks, dye blotches, creases and chafe marks.

Olate can do a lot to give your fabrics the soft finish and pleasing handle that make them outstanding in eye-appeal and sales-appeal. In times like these when safe, efficient, economical production counts so heavily, it will pay you to weigh carefully the many time-tested advantages of Olate.

PROCTER & GAMBLE

Olate *the universal textile soap*

Lots of people sat here . . . .

MANY textile manufacturers were "on the fence". BUT many of them came right off when they discovered the uniformity, cleanliness, consistent high quality of Corn Products Sales Company starches and gums. Many successful textile manufacturers use the services of Corn Products technicians who are always glad to help the manufacturer with WARP SIZING, FINISHING or other textile problems.

CORN PRODUCTS SALES COMPANY

17 BATTERY PLACE, NEW YORK, N. Y.

Textile Offices: Greenville, S. C. • Greensboro, N. C. • Atlanta, Ga.
Spartanburg, S. C. • Birmingham, Ala. • Boston, Mass.

TEXTILE MILL NEWS

Cotton Mill News

Abbeville (S. C.) **Cotton Mills** are constructing a new picker room; also reconditioning the mill building and putting on a new roof.

Buffalo Mills, Shelby, N. C., plan rebuilding of portion of mill recently damaged by fire.

Burkart Mfg. Co., St. Louis, Mo., has acquired property on McKissock Ave., and will use for future expansion in mill.

Cabot Mfg. Co. reports net profit of $260,288 for 1941, against $60,442 for 1940.

California Chenille Co. has been incorporated in Los Angeles county, with a capital of $25,000. Directors are: L. A. and Gertrude E. Briwge, of Los Angeles; and Eldora Martin, of South Gate, Calif. The new corporation is represented by Benjamin J. Goodman, 608 South Hill St., Los Angeles.

Collyer Insulated Wire Co., Pawtucket, R. I., has awarded general contract to Henry M. Soule Co., 110 Armistice Blvd., for one-story addition to mill on Roosevelt Ave., where tract of land recently was acquired. It will total about 10,000 sq. ft. of floor space and is reported to cost over $45,000, including equipment.

Fruit-of-the-Loom, Inc., reports a net profit for 1941 of $232,686 compared with $69,252 in 1940. Plant operations ran at 97% of capacity, against 85% the previous year.

Gosnold Mills report net profit of $288,544 for 1941, against $192,619 for 1940.

Graniteville (S. C.) **Co.** reports for 1941 a net profit of $847,860, compared with net profit of $451,090 for 1940.

Harmony Grove Mills, Commerce, Ga., are reported planning installation of additional spinning machinery and carding equipment. This is part of an expansion program already under way.

Langdale (Ala.) **Mill** of **West Point Mfg. Co.,** is completing construction of one-story addition for warehouse, as well as one-story extension to opening room, for which general contract recently was let to Batson-Cook Co.

Lonsdale (R. I.) **Co.** has awarded contract to John G. McPherson, Inc., Providence, for general repairs to its mill building.

Lucy Mills, Marietta, Ga., are liquidating and plan selling the entire equipment.

Maxton (N. C.) **Mills, Inc.,** capitalized at $100,000, has been incorporated to manufacture and sell cotton yarns, cotton cloth and other fabrics and textile mixtures. The incorporators include Edwin Morgan, H. McN. Jones and Eugene Morgan, of Laurinburg, N. C.

Monroe (Ga.) **Cotton Mills** have completed a two-story addition, which adds 40,000 sq. ft. of space. This consists of a new opening room, supply room and waste house. The company is erecting a new office building. Twelve new Whitin cards, 90 reconditioned looms, a high-speed Foster winder, high-speed folders and automatic shears have been installed. The approximate cost of the improvement program was $150,000.

Pacific Flax Fiber Association, Monroe, Wash., recently organized, has acquired former local milk condensary of Carnation Co., and will remodel and equip for new flax fiber processing mill. Cost reported about $100,000, with machinery. William A. Eastman, 414 University St., Seattle, Wash., is president of new organization.

Piedmont Cotton Mills, Egan, Ga., have awarded general contract to Flagler Co., 305 Techwood Dr., N.W., Atlanta, Ga., for improvements in mill.

Pisgah Mills, Brevard, N. C., have completed construction of a new warehouse addition.

Powdrell & Alexander, Inc., report net profit of $306,262 for 1941, against $134,423 for 1940.

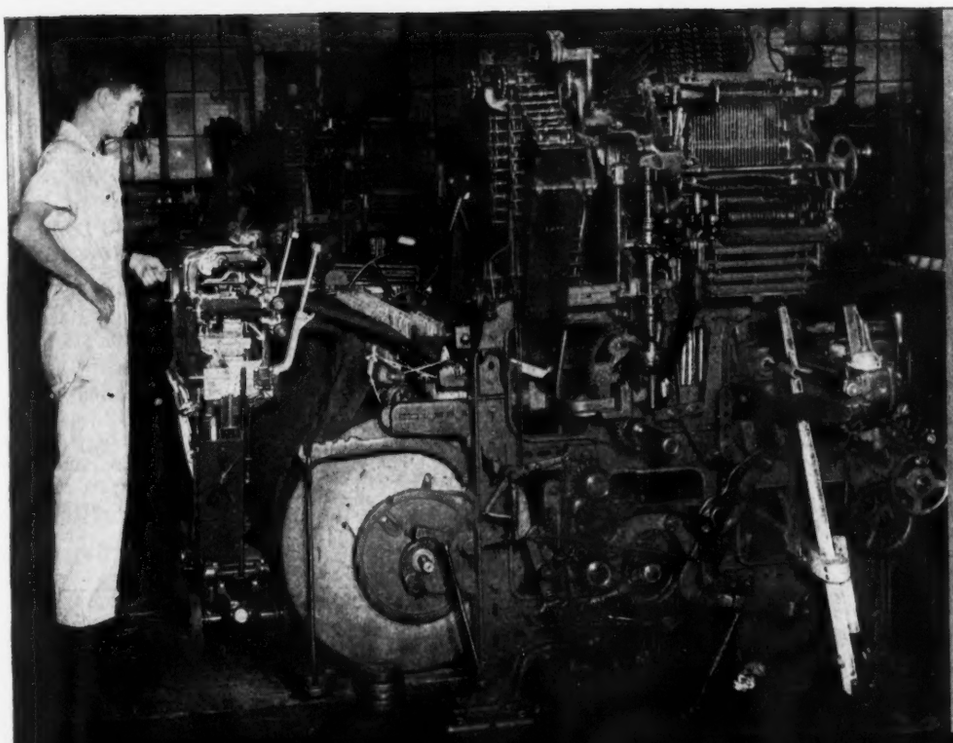
Riverside & Dan River Cotton Mills report net profit for 1941 of $1,458,041 compared with $390,870 in preceding year. Sales for 1941 totaled $37,803,756, against $21,924,811 for 1940. The plant has lately installed several Mount Hope swing guiders.

Sagamore Mfg. Co. reports net profit of $409,000 for 1941, against $103,888 for 1940.

Soule Mill reports net gain for 1941 of $200,216 compared with $34,513 for 1940.

Southampton Textile Corp., Emporia, Va., opened its plant on March 9, having bought out Meherrin Mills.

South Fork Mfg. Co., Belmont, N. C., has constructed an addition to the warehouse.



BARBER-COLMAN

Portable

WARP TYING MACHINE

MODEL "LS"

TYING-IN WOOLEN WARPS... AT THE LOOM!

LOW COST WARP REPLENISHMENT - HIGHEST QUALITY RESULTS

Above, operator using Model "LS" machine equipped with new tying mechanism for woolen yarns. Left, woolen warp completely tied-in at the loom. These pictures were made in a prominent mill which manufactures automobile upholstery fabrics and blankets.

BARBER-COLMAN COMPANY

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Prompt Shipment from 10 Strategically-Located Steel-Service Plants... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Detroit, Buffalo, Cincinnati, Cleveland, Boston, Philadelphia, Jersey City.

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TEXTILE MILL NEWS

Stark Mills, Inc., Hogansville, Ga., a division of United States Rubber Co., New York, N. Y., will begin superstructure soon for new one-story addition, first reported in last issue, for which general contract recently was let to Batson-Cook Co., West Point, Ga. It will be equipped for large increased output of asbestos textiles.

Union Cotton Mill, Lafayette, Ga., which was purchased about four years ago by the Exposition Mills of Atlanta, Ga., and renamed Exposition Mill No. 2, has been sold to S. Leibovitz & Sons, manufacturers of men's and boys' shirts. The mill has about 22,000 spindles and 400 looms.

Wabasso Cotton Co., Ltd., Three Rivers, Que., plans new three-story addition. Cost reported about $65,000, with equipment. Proposed to ask bids soon on general erection contract.

West Point Utilization Co., Inc., Fairfax, Ala., an interest of West Point (Ga.) Mfg. Co., has completed erection of large one-story mill unit, in course of construction for some time, and will occupy at once for main production. Cost reported close to $200,000, with equipment.

Whitney (S. C.) Mills, Inc., recently incorporated under State laws, have arranged for purchase of former local mill of Whitney Mfg. Co., which discontinued operations a short time ago. New company will resume operations at early date and plans improvements in plant. W. S. Montgomery is president, and Victor M. Montgomery, treasurer of former company, vice-president, both of Spartanburg, S. C.

Woodside Cotton Mills Co., Simpsonville, S. C., unit, has awarded contract to Daniel Construction Co., Anderson, S. C., for cloth-room addition, and to the Poe Piping & Heating Co., Greenville, S. C., for sprinkler system.

Wool Mill News

American Blanket Co., a Delaware corporation, with principal office in Virginia at Richmond, with the Central National Bank as agent in charge of business, has been granted a certificate of authority by the Virginia corporation commission to manufacture blankets and other textiles. The C. T. Corporation System, 10 Post Office Square, Boston, Mass., obtained the certificate.

American Woolen Co. reports net profit for 1941 of $6,944,000 compared with $3,154,000 for 1940. Sales for 1941 totaled $145,749,000, against $76,560,000 in 1940. Government billings amounted to 50% of the 1941 total.

Arlington Mills reports net profit for fiscal year ended Nov. 29, 1941, of $1,369,711 against $439,629 for previous year. Sales for 1941 totaled $30,098,040 compared with $16,319,613 for 1940.

Bigelow-Sanford Carpet Co. has bought 40 looms from the defunct Boston Duck Co. of Bondsville, Mass., and is experimenting with the production of army duck at its plant in Amsterdam, N. Y. If successful, similar activity will be undertaken at the Thompsonville (Conn.) plant. The company reports net earnings for 1941 of $2,044,304, compared with $2,075,243 in 1940. Net sales in 1941 totaled $39,251,161, compared with $27,628,360 in 1940.

Blue Ridge Co., Glasgow, Va., has received a Government order for manufacture of 250,000 yds. of heavy canvas used for bands on helmets. According to Earl Morgan, plant manager, the order will take 16 weeks to fill and should keep the plant going at near capacity.

Collins & Aikman Corp., Philadelphia, has sold its local plant, bounded by Leverington Ave., Mallory and Wilde Sts., totaling about 128,000 sq. ft. of floor space, to Buchman Mfg. Co., Carnegie, Pa., manufacturer of feather pillows, etc.

Crown Weaving Mills, Hollywood, Calif., has established a hand-weaving plant at 7313 Santa Monica Blvd., equipped with nine hand looms and two winders. Ildefons Overbach is president; capital is $25,000; product will be wool fabrics for neckties and sports wear and draperies and upholsteries in wool, cotton and rayon.

Furmax Woolen Mills, Hope Valley, R. I., is building a weave-shed addition, 115x32 ft., which will double its capacity.

Goodall Co., Cincinnati, Ohio, has sold its local plant to the Trailer Co. This does not affect facilities for making Palm Beach suits since these have been made at Knoxville, Tenn.; Danville, Ky.; and Roanoke, Ala. Cincinnati has been merely a shipping point.

Leaksville Woolen Mills, Inc., Richmond, Va., with maximum capital of 30,000 shares of common and $1,000,000 preferred stock, has been chartered in Virginia to conduct

ARE YOU IN A POSITION TO HELP WIN THE WAR?

yes!

Give these questions careful consideration:

1 Supplies of burlap are dwindling. Can you save material and money by buying soda ash in paper bags?

2 Conversely, the war effort will require about 30% of our paper output. Can you purchase soda ash in box or hopper cars, unloading to be effected with mechanical or air conveyor systems?

3 Steel is the main sinew of war. A 760-lb. drum of solid caustic or a 400-lb. drum of flake caustic consumes 18 lbs. of steel. Can you buy your caustic soda for delivery in tank cars of 50% liquid caustic?

4 Scrap steel is of great value to our national economy and worth good money to you. Are you disposing of it to the best interests of our war effort?

5 Shipments of 50% liquid caustic are being made at an unparalleled rate. New tank cars are becoming difficult to secure. The equipment now on hand can be used more advantageously to carry 74% than 50% liquid caustic. Can you change to 74%?

•

Help win the war. Write the nearest Michigan Alkali office or any other conveniently located alkali manufacturer for full information and advice on changes in handling equipment.

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DISTRIBUTORS IN ALL PRINCIPAL CITIES

CALCIUM CARBONATE • CALCIUM CHLORIDE • CAUSTIC SODA • BICARBONATE OF SODA • SODA ASH • CHLORINE • DRY ICE

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★ RINSES EASILY AND COMPLETELY
★ IMPROVES FULLING AND SCOURING
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★ PRODUCES FINEST HAND
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OTHER HIGH GRADE "STANDARD" PRODUCTS
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Charlotte, N. C. CATO M. LITTLETON 426 PARK TERRACE • 205 South 2nd St. Camden, N. J. • Woonsocket, R. I. G. TANGUAY 281 HARRIS AVE.

Testing promotes Speed and Quality

An Adequate Testing Routine gives you a firm command of materials and processes. You handle unfamiliar materials confidently. You force top production without loss of control. More than 60 models of *Scott Testers answer every need for tensile, hysteresis, burst, twist, crepeage, etc.

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ALLEN Hollow Hex-hole Screws for TEXTILE MACHINERY

Heads set flush with machine surfaces. No sharp edges or slots to burr and pull threads; screws are chamfered at the point, outside edge of head and top edge of socket. The internally operated hex key sets the screw quickly and *tightly* without slippage. Samples supplied to your specifications.

THE ALLEN MANUFACTURING COMPANY
Hartford, Connecticut, U. S. A.

a manufacturing business. John L. Moreland, of Charlotte, N. C., is president. Archibald G. Robertson, Electric Building, Richmond, obtained the charter.

Meaford (Ont.) Woolens, Ltd., care of H. G. Bristow, 26 Queen St., East, Toronto, Ont., attorney, are planning early construction of one-story mill on local site. Cost estimated close to $50,000, including equipment.

Rochdale Mills, Leicester, Mass., have been formed with capital stock of 500 shares to occupy the old Clark Woolen Mills and do custom picking for the wool trade. John Hoenig of Putnam, Conn., is president; George W. Musgrave, formerly of the Webster Woolen Mills, treasurer.

William Whitman Co., Inc., reports a net profit for 1941 of $1,182,099, against a 1940 net of $439,835.

Worumbo Mfg. Co. reports a net profit of $172,807 for 1941 (year ended Nov. 30), compared with $146,803 for the previous fiscal year.

Wyandotte Worsted Co., Rochester, N. H., has constructed a new soap house to replace a structure dismantled some time ago.

Rayon Mill News

America Enka Corp., Enka, N. C., has awarded general contract to Merchants Construction Co., Asheville, N. C., for one-story addition, about 80x200 ft., for expansion in twisting department and other divisions. Cost reported over $85,000, with equipment.

Belding Heminway Co. reports net profit for 1941 of $598,622 against $421,505 for 1940.

Carolina Rayon Mills, Burlington, N. C., have let an option to purchase to G. L. Weil, of Greensboro, and C. F. Somers, of Burlington. The mills may be converted into an aeroplane manufacturing plant.

Carter Fabrics, Inc., which maintains main offices on the sixth floor of the Jefferson Standard Building, Greensboro, N. C., has increased space by leasing two adjoining offices.

Choate Mills, Inc., Charlotte, N. C., has been organized to manufacture all types of yarns, yarn products and by-products. Authorized capital stock is 250 shares; subscribed stock $500, by Joe L. Blythe, R. J. Boyd, Jr., and J. B. Choate, all of Charlotte.

Copland Fabrics, Inc., Burlington, N. C., which was organized last year, and which got into production recently, is now producing about 100,000 yd. of rayon marquisette weekly.

Marshall Field & Co., Spray, N. C., has installed 17 double-deck Fletcher twisters and six Fletcher Simplex winders in this unit.

Hartford Rayon Corp. reports net profit for 1941 of $155,161, against $64,951 for 1940.

Kingsboro Silk Mills, Inc., Gloversville, N. Y., are arranging for removal of local plant to McMinnville and Daisy, Tenn., where property has been acquired. Gloversville plant has been sold. Capacity will be increased at new locations.

Newmarket Mfg. Co. earned a net profit of $359,718 in 1941, compared with $164,045 in 1940.

Peterboro (N. H.) Mills, Inc., recently incorporated under State laws, with Gilbert Verney, Manchester, N. H., as president, have purchased plant of White Mills of New Hampshire, Peterboro, approximating 100,000 sq. ft., for production of a special line of rayons for defense service. Plant is scheduled to be ready for operation early in the spring.

Pinehurst Cloth Mills, Inc., Hemp, N. C., have constructed a new throwing department, also a new office building, and have made improvements around the plant.

Skenandoa Rayon Corp. reports net profit of $402,463 for 1941 against $274,940 for 1940.

Tubize-Chatillon Corp. reports net profit of $1,393,638 for 1941, against $2,174,520 in 1940.

Tubize - Chatillon Corp., Rome, Ga., to meet its growing demands for steam and power, has made a substantial addition to the boiler plant. This included the installation of one new pulverized fuel boiler unit of 80,000 lb. per hour capacity and designed for operation at 600 lb. pressure.

Knitting Mill News

A-Q Mills, Timmonsville, S. C., the initial tricot mill in South Carolina, has recently completed additions which will enable it to double its capacity.

Burlington Mills Corp. has purchased McLaurin Hosiery Mill, Asheboro, N. C., and will operate it as the nucleus of a business in half hose.

Chapin Hosiery Co., Springfield, Mass., will close

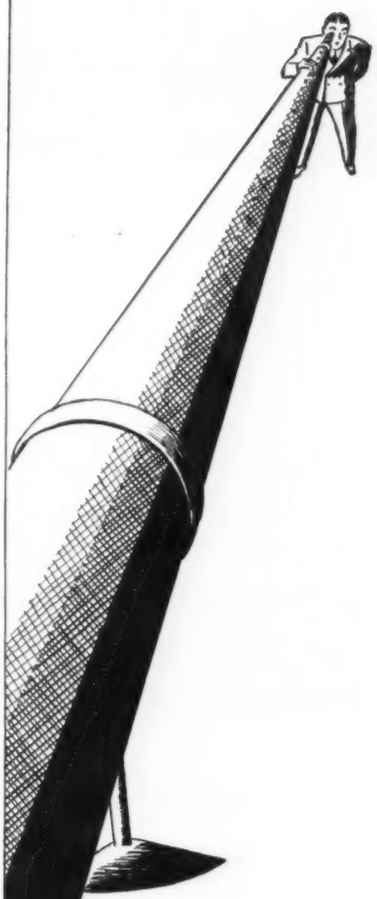
THE LONG VIEW ON SHORT CUT REPAIRS

Take Costly Guesswork Out of Knitting Machine Maintenance

With things humming the way they are these days, production certainly has to keep moving to keep pace with the trend. When a knitting machine part wears out or breaks down unexpectedly today, it becomes a moment for *quick* decision . . . and a *right* one. Patch-up or reliable repair? A local machine shop substitute or a genuine S & W factory-made duplicate?

Your local machine shop is neither skilled nor equipped to match the design, metallurgical, tooling or other considerations essential to turning out a serviceable replacement part equal to top performance you require of your Scott & Williams machines. Meanwhile, you are time out of pocket . . . time that probably would have been more than ample for a prompt factory shipment of the S & W part you need . . . a part that can be depended on to restore and maintain the efficiency in your Scott & Wiliams machines that your cost and production schedules demand. For the 55,400 different S & W parts replacements are identical to those assembled into complete knitting machines.

Replacement part orders receive right-of-way attention by the Scott & Williams factory staff. Teletype service is FREE from our High Point or New York offices.



"IT TAKES S & W PARTS . . . FOR S & W MACHINES . . . FOR S & W PRODUCTION EFFICIENCY . . . AT ALL TIMES"

ESTABLISHED 1865 **SCOTT & WILLIAMS** INCORPORATED

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ARLINGTON MILLS
LAWRENCE, MASS.
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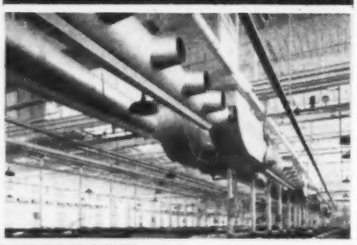

Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.
For 25 years we have been successfully solving the air-conditioning problems of the Textile Industry.

"YOU CAN COUNT ON WAK COUNTERS"
They are
RUGGED
ACCURATE
DEPENDABLE
We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.
Write—Phone—Wire
WAK INDUSTRIES
CHARLOTTE, N. C.

and liquidate because Nylon no longer is available to women's hosiery manufacturers. Plant was formerly the Harris Silk Hosiery Co. Horace E. Allen is counsel for the concern.

Durham (N. C.) **Hosiery Mills** have sold an old plant at Chapel Hill, N. C., to the Canadian-American Co., Cleveland, Ohio. The mills report net profit for 1941 of $549,629 against $36,761 for 1940.

G. & H. Hosiery Mill, Hickory, N. C., has completed a second-story addition to one of its buildings for expansion of the looping department. Machinery has been installed.

Gotham Silk Hosiery Co. voted to change name to Gotham Hosiery Co. on Mar. 2. Its net profit for 1941 was $737,834 against loss of $149,159 for 1940.

Grenada (Miss.) **Industries, Inc.,** have closed bids on general contract for one-story addition, 80x180 ft., to hosiery mill, and will equip for a new dyeing and finishing department. Cost estimated close to $130,000, with machinery. Of this amount, $50,000 will be furnished by bond issue recently voted by local citizens.

Holeproof Hosiery Co., Milwaukee, Wis., reported net profit for 1941 of $353,735, compared with $50,054 in 1940.

C. D. Jessup & Co., Claremont, N. C., has installed a Fletcher extractor (30") equipped with automatic timing devises.

Lerner Knitwear, Bassett Building, Shelton, Conn., has filed notice of organization to operate a local mill. Morris and Louis Lerner are heads.

Massachusetts Textile Co., Fall River, Mass., sold its equipment of hosiery knitting machines, and stock of yarn and hosiery at liquidation auction Jan. 28.

Phoenix Hosiery Co., Milwaukee, Wis., reports net profit for 1941 of $546,113, compared with $154,055 in 1940.

Real Silk Hosiery Mills report net profit of $501,438 for 1941 against loss of $341,955 for 1940.

Rollins Hosiery Mills, Des Moines, Ia., reports net profit of $71,059 for 1941, against $115,282 for previous year.

Utica (N. Y.) **Knitting Co.** reports net profit for 1941 of $573,402 compared with $417,676 for 1940.

Vanterial Corp., care of Vanity Silk Mills, Gordon, near Buttonwood St., Reading, Pa., has been incorporated for the manufacture of textiles by F. Stanley Saurman, Southampton, Pa.; Thomas J. Cauley, Philadelphia, and Robert E. Boyd, Ardmore.

Wil-Tex Hosiery Products Corp., Villa Rica, Ga., has bought adjacent building. The company started operation in September. R. O. Williams, president; E. J. Williams, secretary and general manager. Capacity will be expanded.

Processing Plant News

Colorite Textile Print Works, Inc., 55 Great Jones St., New York, N. Y., have leased a floor in building at 449 West Thirtieth St., and will occupy for plant. Present works will be removed to new location and capacity increased.

Edwards Dye Works, Philadelphia, Pa., have added 10,000 sq. ft. of floor space to their plant at 4041 Ridge Ave. A dryer and three dye kettles have been installed to increase production on Government work.

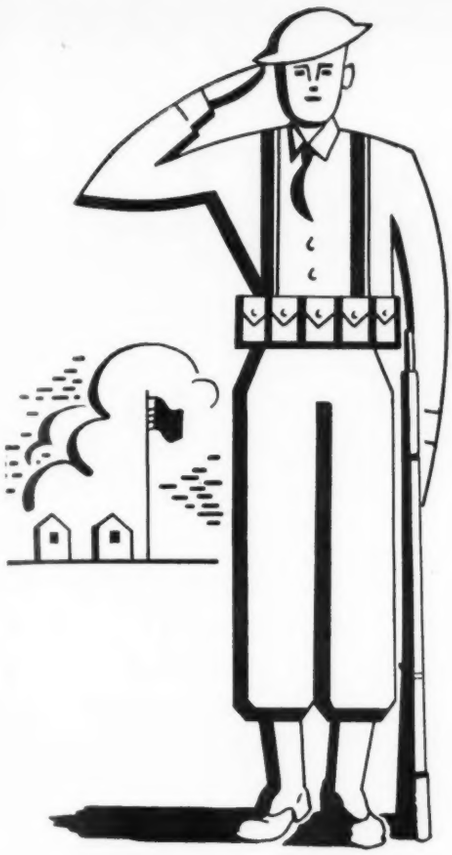
Horn Dyeing Co., 600 N. Brown Street, Titusville, Pa., has been incorporated to carry on a business of "manufacturing, dyeing, bleaching, cleaning, renovating, disinfecting, extracting, printing, mercerizing and finishing textile fabrics, yarns and threads." Capitalized at $20,000, the new firm is incorporated by W. W. Steinbuhler, of Titusville, Pa.; Jack T. Steinbuhler, of Ramsey, N. J.

Nina Dye Works, Inc., Passaic, N. J., care of Barnett Berr, 68 Lexington Ave., representative, recently organized, plans early operation of local textile dye and finishing mill.

Rockland (Mass.) **Mfg. Co., Inc.,** has been incorporated with capital of $50,000, and 5,000 shares of common stock, no par value, to operate a local textile processing and finishing mill. New company is headed by Jacob Swartz, 68 Center St., Brookline, Mass., treasurer and representative; and Robert P. Cable, president.

Rock Hill (S. C.) **Printing & Finishing Co.,** to meet increased demands for steam and improve operating efficiency, recently completed installation of a large new boiler unit and improvements to their old boiler. The new boiler unit has 150,000 lb. per hour capacity, operates at 250 lb. pressure, and is fired with pulverized coal.

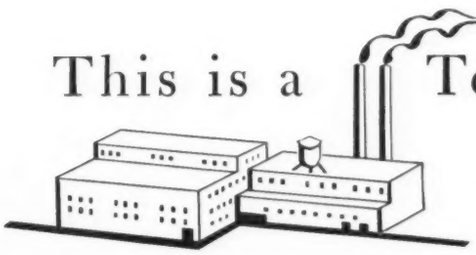
Try-Us Textile Processing, Inc., organized recently, has arranged for lease of floor in building at 102-08 West Eleventh St., New York, and will occupy for new plant.



This is a Soldier

He is one of the millions of those in our services who must be clothed properly.

This is a Textile Mill



Its job is to produce the material to clothe our soldiers, sailors, and marines.

This is the Hercules Experiment Station

Its job is to develop Hercules chemical materials to help industry do its tasks quicker and better. For the emergency demands of the textile industry, it developed Yarmor 302-W Pine Oil.

This is a drop of Yarmor* 302-W Pine Oil

Its job is to help speed the goods through the textile mill. By penetrating the fibers and holding the dirt and grease in suspension for easy rinsing, it saves as much as 30% in the fulling operation—does its stuff, too, in kier boiling and as a dye assistant. And it is saving time in lots more operations—for lots more clothes—for lots more soldiers.

NAVAL STORES DEPARTMENT

HERCULES POWDER COMPANY

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How Du Pont

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Chemicals Add *Service* to Service Clothing

THE MOBILIZATION of America is reflected in the increasing demand for work and service clothing. Serviceability is the first consideration, and its importance directs attention to the use of these Du Pont Chemicals that help service garments give more service.

Vat Dyes stand up under sun, perspiration, oil, grease and laundering. They come through the famous "Oil Fields Test"—scrubbing with lye solution and drying with high pressure steam—strong and fresh.

"Zelan"* is Du Pont's long-chain nitrogen complex which imparts a durable, water-repellent, soft finish to cottons, rayons and other fabrics. It provides real protection against rain, non-oily stains and perspiration—even after many washings or dry cleanings.

"Aridex"* water repellent gives stain and spot resistance, and water repellency to woolens, worsteds and many other types of fabrics. It permits healthful free circulation of air because it does not coat or seal the cloth. Many laundries and dry cleaners now reprocess garments with this wax type repellent.

Fire Retardants are easily and quickly applied. They prevent spread of flame and afterglow. *Write for sample swatches.*

E. I. DU PONT DE NEMOURS & COMPANY (INC.)
WILMINGTON, DELAWARE

* Trade Mark Reg. U. S. Pat. Off.

INCREASE PRODUCTION EFFICIENCY WITH

WATER COOLERS *specifically keyed to the* TEXTILE INDUSTRY

Refreshing drinking water combats fatigue; helps maintain high efficiency, production, morale and good will of workers. Thus, a modern drinking system fills an important wartime need.

Westinghouse Water Coolers are especially well adapted to the specific needs of the textile industry, for the following reasons:

1. Large ¾-inch free passage drains prevent stoppage due to lint or other foreign matter.

2. The motor and compressor are sealed in an air-tight steel shell. Thus no lint, dirt or dust can get inside.

3. Three models designed specifically for textile mills have water-cooled condensers. Constant cleaning is eliminated—high efficiency maintained.

Exceptional economy and efficiency are achieved (1) by using cold drain water to precool incoming water and (2) by cooling water over the entire side wall area of the cooling chamber.

Westinghouse Water Coolers are powered by the famous Hermetically - sealed compressor with its GREATER COMPACTNESS AND FLEXIBILITY, LESS WEIGHT, FEWER PARTS, LOWER OPERATING AND MAINTENANCE COSTS, LESS WEAR AND LONGER LIFE.

To your business, Westinghouse offers a complete water cooler, air conditioning, and industrial refrigeration service. For details just write Westinghouse, 623 Page Blvd., Springfield, Mass.

Westinghouse

WATER COOLERS

AIR CONDITIONING • REFRIGERATION

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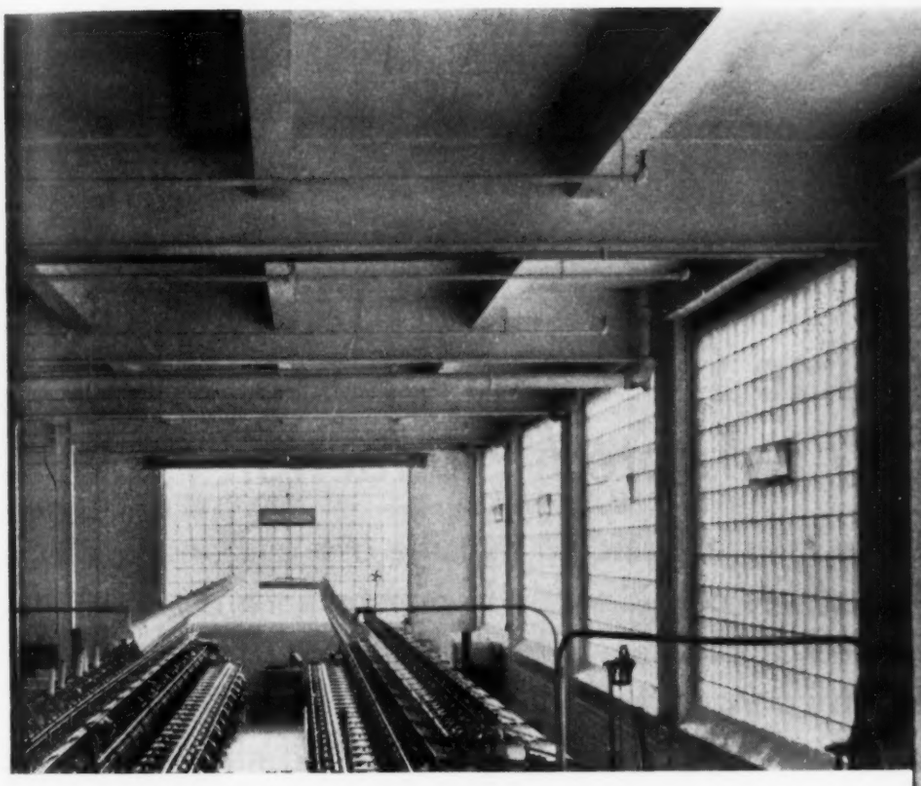
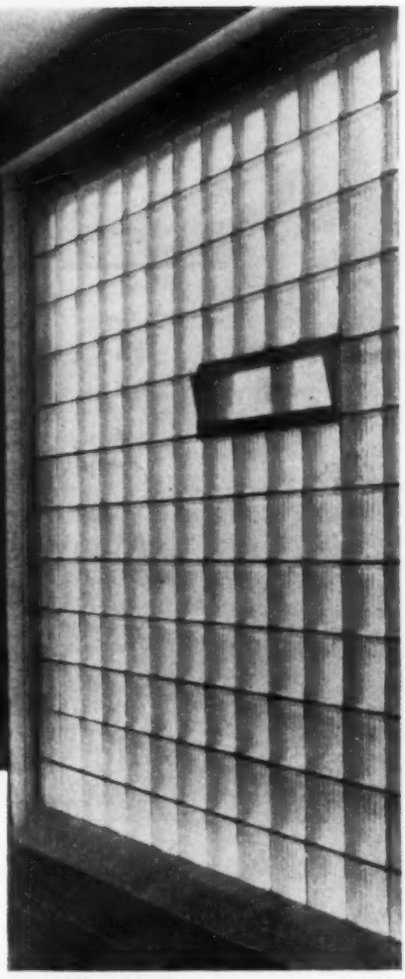
PC Glass Blocks AID OPERATION OF FINE GAUGE MACHINERY AT GRANITE HOSIERY MILLS





RECENTLY the Granite Hosiery Mills, at Souderton, Pa., replaced ordinary windows with PC Glass Blocks—Saxon pattern. That results have been highly satisfactory is shown by the following statement received from them:

> **"Today, with the thermometer down to zero, we really got the full benefit of Glass Blocks, as we have some fine gauge machinery within three feet of these blocks. Should we have kept our ordinary windows, I am sure we would have been unable to operate this equipment on a day of this kind."**

PC Glass Blocks permit less than half the heat loss of single-glazing—even less than double windows. As a result, condensation will not form on the inside surface of the panels until outdoor temperatures are abnormally low. This aids control of room humidity.

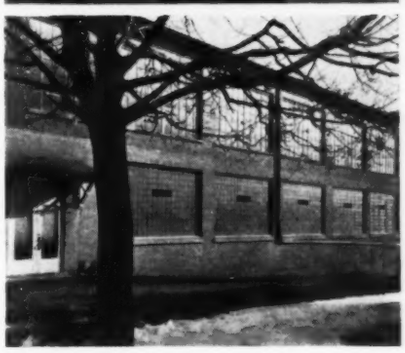
No other building material combines light-transmission and insulation in such an efficient unit to give you so many advantages. That's why PC Glass Blocks have won such wide acceptance in plants all over the country. Get the facts about them now. Write for our free book that shows how PC Glass Blocks can help you cut costs and improve plant operation.

Available for immediate shipment

You can get PC Glass Blocks right now. Glass block construction requires no use of critical materials in small panels—very little metal is required for large panels.

PC Glass Blocks give you all these advantages:

BETTER DAYLIGHTING · INSULATION · IMPROVED TEMPERATURE CONTROL · IMPROVED HUMIDITY CONTROL · LESS CONDENSATION ON WINDOW AREAS · EASIER CLEANING · ELIMINATION OF DIRT INFILTRATION · REDUCED MAINTENANCE COSTS · PRIVACY



"PITTSBURGH" stands for Quality Glass

PITTSBURGH PC CORNING

GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

Pittsburgh Corning Corporation
2054-2 Grant Building, Pittsburgh, Pa.

Please send me your free, illustrated book that tells how to use PC Glass Blocks in industrial plants.

Name .....

Address .....

City ..... State .....

Pat'd. and Pats. Pending

UNBRAKO

SELF-LOCKING

HOLLOW SET SCREWS

with the Knurled Points

Save Time for Loom Fixers — *and Avoid Interrupted Production Flow*

Many textile mills are finding that the use of "Unbrako" Self-Lockers saves considerably in maintenance costs and delays caused by ordinary set screws failing to hold tight. Tightened up as usual, these Knurled "Unbrako" Screws dig in for the duration and stay locked no matter how severe the vibration or number of applications.

A sample order will convince you — try it.

"UNBRAKO" WELT BAR SCREWS

Uniformly strong and accurate, "*Unbrako*" Welt Bar Screws insure extra satisfaction in many a mill. Ask for samples of these.

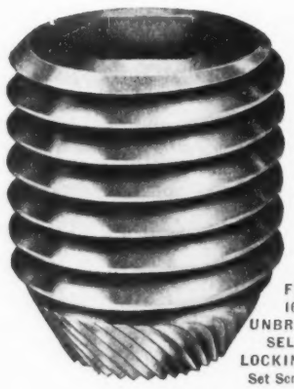


Fig. 1645 UNBRAKO SELF-LOCKING Set Screw

You can aid prompt deliveries by ordering standard "Unbrako" sizes. Our catalog will show you. Send for a copy.

The KNURLING of Socket Screws originated with "UNBRAKO" years ago.

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 571

— BRANCHES —

BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

Reg. U. S. Pat. Office

UNBRAKO *Screw Products*

DU PONT

REG. U.S. PAT. OFF.

PAINT CONSERVATION PLAN

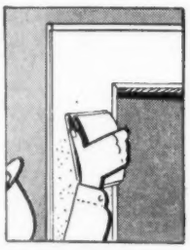
MAKES PAINT LAST LONGER AND GO FURTHER

WHEN all industry faces shortages of materials, ***don't waste paint.*** Make every brushful count—to reflect more light, to keep factories cleaner, to protect plant investment.

Use paint economically, repaint less frequently—that's how you can conserve paint for America's tanks and planes and ships. Here is a plan Du Pont chemists worked out to help you improve your painting technique and increase the "mileage" of your paint jobs. Regardless of the paint you use, these six points will help you get more from your paint, cut waste, provide better seeing and better protection, save time and money.

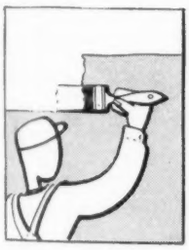
Each of these six points is only briefed here and will be elaborated in subsequent ads in this publication. Watch for these ads.

1. PREPARE SURFACES PROPERLY...



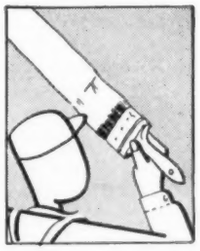
Don't waste paint by spreading it over damp, dusty, greasy, rusty, scaly surfaces where it can't take hold. Repair, sand and cleanse ***before*** painting. Test plaster and masonry for alkalinity with litmus paper. Spot prime, where possible, to save complete priming coat.

2. IMPROVE APPLICATION METHODS...



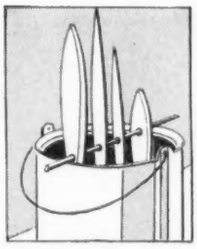
Save paint by applying paint at correct temperature and film thickness. Painting when too hot causes runs, sags, curtains, often results in a film too thin for protection. Too cold a film means hard brushing, produces too thick a film, wastes paint, labor.

3. USE FEWER COATS, IF POSSIBLE...



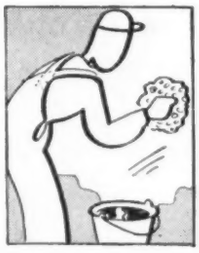
When repainting, one coat may suffice if you use the same or a darker color. Touch up window sills, door jambs, worn places first . . . then one over-all coat may do the job. Tint undercoats to about the finish color; imperfections won't show as readily.

4. TAKE PROPER CARE OF PAINTS AND BRUSHES...



Pour "left-over" paints of same type together, strain and use. Save thinners, too. Make one man responsible for keeping, cleaning and storing brushes so paint won't harden in them. Bore holes in brush handles and hang them in solvent.

5. WASH FREQUENTLY...



Washing with soap and water or a non-caustic commercial detergent often provides as much cleanliness and light reflection as a new paint job. It is easy to wash paint. Use clean cloths or sponges and rinse with warm water.

Washing saves paint and costs less.

6. INSPECT PAINTED SURFACES OFTEN...

Protect the danger zones—window sills, columns, corners. A brushful of paint applied in time may postpone a big repaint job. Use hoods and ventilators to avoid discoloration from chemically laden steam, soot and dust.

LOOK FOR DETAILED DISCUSSION IN ADS TO FOLLOW

LET'S GET TOGETHER ON PAINT CONSERVATION

▶ **Du Pont chemists, maintenance engineers, field representatives and outside authorities have pooled their experience to create this conservation plan—to make it as practical, all inclusive and effective as possible. Perhaps you, too, have other good suggestions and useful "short cuts"? We'll appreciate your telling us about them so we can pass such information to others and help them save paint and labor for today's urgent needs.**

Committee on Paint Conservation

E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware

HERE'S A "THUMBS UP" PROGRAM FOR YOUR MILL!

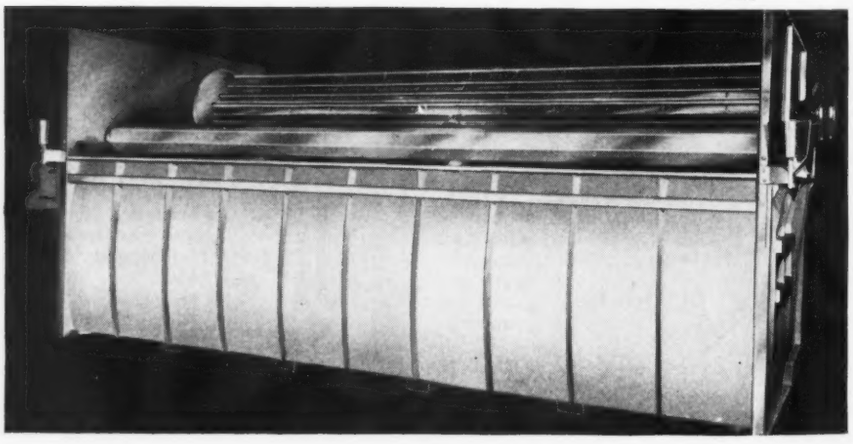
IT'S FREE

Keeping equipment at peak operating efficiency is one of the industry's major war-time jobs. It's not only good business to insure top production and long service life for your stainless steel machines; it means "Thumbs Up" for America!

Given reasonable care, equipment made of ARMCO Stainless Steels will return many years of thrifty, efficient service. Cleaning and servicing at regular intervals will prevent shutdowns and make replacements unnecessary.

To help you do the job in less time and at less cost ARMCO offers you a special folder. It is titled "Your Stainless Steel Equipment . . . Its Advantages and Care in Textile Processing."

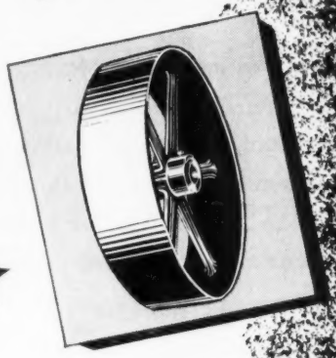
Among other tips it tells how often to wash your stainless steel machines, how to remove stubborn lint and scum *fast*, and how to treat discolorations. It also tells about the advantages of the correct grades of ARMCO Stainless Steels — their hard smooth surfaces, corrosion resistance and the sure-fire color values they give your textiles.

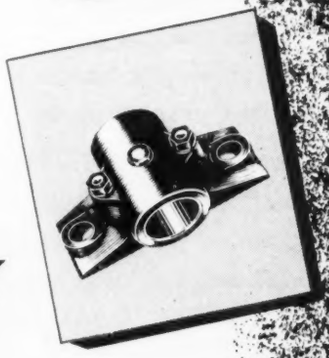


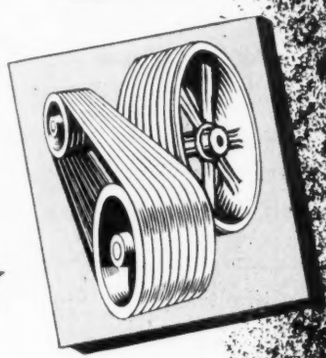
MADE OF ARMCO STAINLESS STEEL

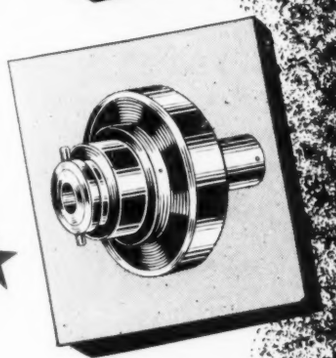
Write for a free copy of this valuable folder. You'll agree it will help you keep your stainless steel machines spinning the word "Victory." Just address a post card to The American Rolling Mill Co., 1041 Curtis St., Middletown, Ohio.

TO MACHINERY BUILDERS









Wood's FACILITIES CAN HELP YOU STEP UP YOUR OUTPUT...NOW!

Machines and men now tied up in your plant to make your own pulleys, pillow blocks, sheaves, bearings and other similar parts can be released for other vital production by letting Woods handle this part of your problem. We've specialized in making power transmission equipment for nearly 90 years . . . our products have served industry in peacetimes and in four American wars.

Let us tell you more about Woods Long Life Line Products . . . our facilities and how they can help you in the present emergency. Write today.

EVERYTHING IN TRANSMISSION

Bearings – Collars – Clutches – Couplings – Contactors – Hangers
Pillow Blocks – Pulleys – V-Belt Sheaves and Complete Drives

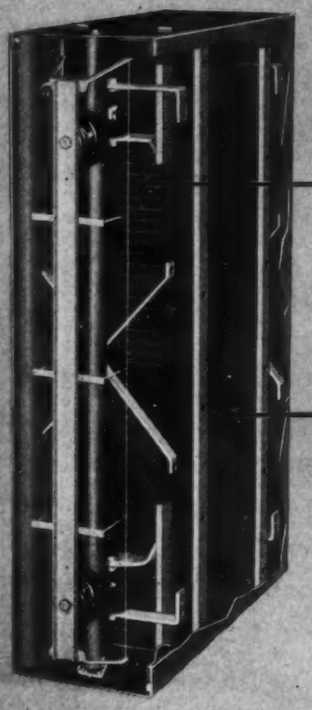
T. B. Wood's SONS COMPANY
CHAMBERSBURG, PA.

the LONG LIFE LINE

WOOD'S large well equipped plant

Buy Defense Bonds

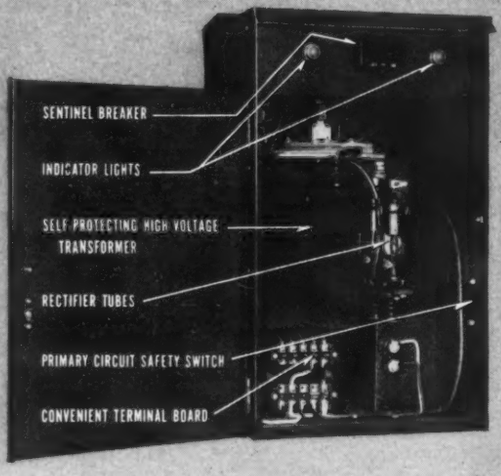
PRECIPITRON* CLEARS THE AIR FOR TEXTILES



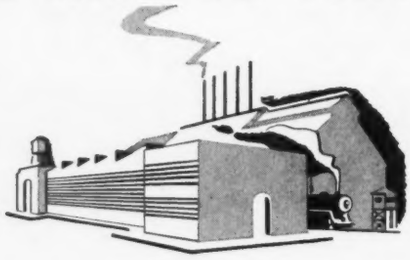
An electrostatic field at the front of the PRECIPITRON cell charges all dust and dirt particles as they enter.

Charged dirt and dust particles are drawn to and precipitated on the collector plates.

One or more PRECIPITRON cells, depending on the volume of air, are sealed in the ventilating duct so all air passes through them. From 85 to 90% of the particles in the air, even as small as 1/250,000 of an inch, are removed.



The PRECIPITRON power pack provides d-c voltage to set up an electrostatic field at the leading edge of the cell and also to energize the collector plates. It is listed by the Underwriters' Laboratories and has special built-in safety devices as protection against electrical shock.



PRECIPITRON—the Westinghouse electric air cleaner—is releasing the Textile Industry from the damaging effect of soot, smoke, dirt and dust. To assure clean, streakless yarn and cloth, it is being used alone as an air cleaner or as the cleaning component of an air conditioning system.

The principle of PRECIPITRON is entirely different from that of an ordinary air filter. It operates by electricity. Dust and dirt particles in the air stream are given an electric charge and then drawn off to oppositely charged plates.

PRECIPITRON has no moving parts. Its operation is silent and simple. Resistance to air flow is negligible and for all practical purposes remains constant in operation. It has been tested against fire hazards and is listed by the Underwriters' Laboratories.

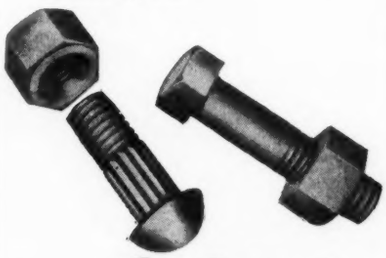
Today electric air cleaning is effectively at work in many textile mills where cleaning efficiency counts—where it is essential to prevent tiny, unseen particles from streaking and damaging yarn during winding and drying operations.

Your nearest Westinghouse Sales Office has full information on the application of PRECIPITRON. Or, you may write Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, Ohio, for Folder F-8608.

*Trade-mark registered in U. S. A.

Westinghouse Precipitron

Structural material
Plates, various qualities
Floor Plates
Sheets: Hot Rolled, Cold Rolled, Galvanized, etc.
Bars (all shapes): Hot Rolled, Carbon and Alloy grades
Hot Rolled Strip Steel
Spring Steel · Tool Steel
Drill Rod
Cold Finished Bars, Carbon and Alloy grades
Wire
COR-TEN and MAN-TEN Shapes, Sheets and Plates
Abrasion-Resisting Sheets and Plates
Eaves Trough, Conductor Pipe
U·S·S Stainless Steel and Stainless products
Expanded Metal
Rails
Boiler Tubes
Rivets, Bolts, Nuts, Washers
Dardelet Rivet and Machine Bolts
Nails
Welders and Welding Accessories
Chain
Clamps
Flanges
Expanders, etc.
Hoists, Shears, Rolls, Punches, Cut-Off Machines, Saws, Nibblers, etc.



In Stock!
Dardelet Bolts

We can offer immediate shipment of both Dardelet Rivet Bolts and Dardelet Machine Bolts. These bolts save valuable time and labor and assure permanently tight bolts.

The Dardelet Rivet Bolt is a ribbed bolt with Dardelet self-locking thread, and is widely used for field erection of structural steel. Has recessed nut. Bolt is driven in and nut is applied with wrench. Economical and strong.

The Machine Bolt with Dardelet self-locking thread is for general use where vibration is present.

Don't give up without calling Scully!

CHICAGO	**BRUnswick 2000**
Teletype CG. 605	
BALTIMORE	**GILmore 3100**
Teletype BA. 63	
BOSTON	**STAdium 9400**
CLEVELAND	**HEnderson 5750**
Teletype CV. 153	
PITTSBURGH	**CEdar 7780**
Teletype PG. 475	
ST. LOUIS	**MAin 5235**
MINNEAPOLIS - ST. PAUL	**NEstor 2821**
NEWARK, N .J.	**BIgelow 3-5920**
	BErgen 3-1614 - REctor 2-6560

USS Scully Service

SCULLY STEEL PRODUCTS COMPANY

Distributors of Steel and Steel Products

UNITED STATES STEEL

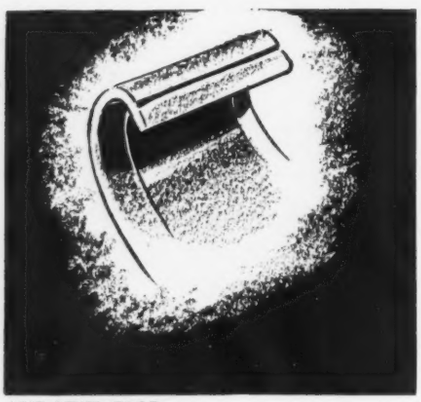
FACTS YOU SHOULD KNOW ABOUT RING TRAVELERS

Only U·S RING TRAVELERS

GIVE YOU all THESE IMPORTANT FEATURES

THE NE-BOW

Notice the distinct **BEND INWARD** of the hook at the top of the horn. This bend prevents yarn ends from flying out . . . at the same time, it provides ample headroom for threading the yarn . . . and permits full play of the Travelers, preventing binding on the ring. The **NE-BOW** is a result of "U. S." research and design to meet the conditions created by the use of the Verticle Ring (particularly of the lubricating type).

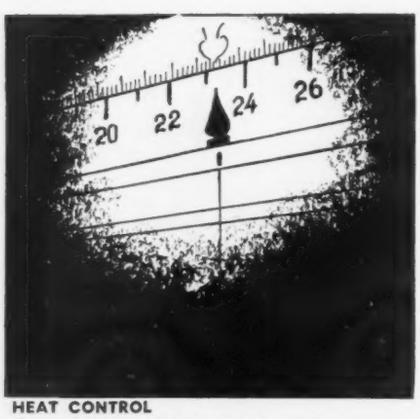


THE BEVEL EDGE

The Bevel Edge is another "U. S." feature. It insures a constant production of smooth, even yarn. It eliminates flat ends in throwing rayons and silks, chafing, roughing, splitting or fly waste in spinning and twisting cotton, wool, worsted, asbestos fibres. "U. S." was a pioneer in the development of the Bevel Edge in Ring Travelers, a great improvement over the old angular edge. Made in all sizes and weights for all kinds and counts of yarn.

PERFECT BALANCE

The straight part of the shank in this Perfect Balance "U. S." Traveler is **CLOSE TO CENTER OF GRAVITY** . . . approximately as much weight on open as on closed side. Straight shank distributes wear (and lubricant) **EVENLY** over a wider area of the ring. Result . . . less friction; longer wear; smoother running. Note how shank curves back below straight part. Traveler will not pivot away from surface of ring, thus preventing unthreading of ends due to excessive twist in silk and rayon yarns.



HEAT CONTROL

Ring Travelers will not give perfect long service unless their metal is perfectly hardened. That involves scientific and continuous control of heating furnaces "U. S." relies on electrical control through pyrometers, with temperature recording through **POTENTIOMETERS**, to insure accuracy of results. Our close measurement and control of temperature is paralleled by scientific control of all other steps in the production of these perfect Ring Travelers, from initial selection of metal to final packing and numbering.

RECORDED HISTORY

On every sealed, protective container in which we ship "U. S." Ring Travelers appears a number. That number is the key to a complete "case history" of that particular order. Should you want an **EXACT DUPLICATE** of your order even 10 or 20 years hence, you can get it by giving us that number. Every step in every production process of every shipment of "U. S." Travelers is minutely recorded for the protection of users of "U. S." products everywhere.

TESTING

Sorry—we'd like to show you here some of the ingenious and special testing equipment we have developed, but they're "trade secrets" . . . they make your "U. S." Travelers last longer and serve better, you can take our word for it. Incidentally, if you'd like us to help you study your spinning conditions, we'll be glad to bring along a stroboscope to simplify matters. We also supply special tools for applying and removing Travelers.

The Travelers *that Keep Going*

A TRAVELER FOR EVERY FIBRE

SOLD UNDER THESE TRADE NAMES

- Bowen Round Point Travelers
- Bowen Square Point Travelers
- Bowen Improved Vertical Bronze
- Bowen Patented Bevel Edge
- Bowen Flat Oval and Round Wire Travelers
- Bowen Patented Ne-Bow Vertical
- Bowen Patented Vertical Offset

U. S. RING TRAVELER CO.

PROVIDENCE RHODE ISLAND

AMOS. M. BOWEN, PRES. AND TREAS.

Sales Representatives:

NEW ENGLAND
Carl W. Smith, Herbert J. Smith — both c/o U. S. Ring Traveler Co., P. O. Box 1187, Providence, R. I.

SOUTHERN:

William P. Vaughan	P. O. Box 792	Greenville, S. C.
Oliver B. Land	P. O. Box 158	Athens, Georgia
Torrence L. Maynard	P. O. Box 456	Belmont, N. C.
William H. Rose	P. O. Box 792	Greenville, S. C.

MID ATLANTIC:
M. Lee Bolton
P.O. Box 7231
Philadelphia, Pa.

RODNEY HUNT NEWS

TEXTILE MACHINERY — WATER POWER EQUIPMENT — ROLLS AND REELS

19 HEFTY MEN FAIL TO BEND THIS SUPER-STRONG REEL

Striking evidence of the strength of the new Rodney Hunt "Pipe Body" Stainless Steel Reels is this photograph of nineteen husky workmen standing dead weight on a 19 foot reel. This patented feature is one of many reasons why more and more mills are standardizing on Rodney Hunt Stainless Steel Reels.

SEE CATALOG 740

NO END ROT OR LOOSE SHAFTS WITH "SELF-SEAL" ROLLS

The photo at left shows how end rot and corrosion affects ordinary rolls after a period of service. With a "Self-Seal" Roll —your roll troubles are over. No loose shafts and no rings or spiders to corrode. The seal outlasts the wood. Lower in price and unequalled in value. A patented Rodney Hunt product.

SEE CATALOG 740

WATER POWER USERS HAIL NEW ANTI-FRICTION BEARING

Hunt Anti-Friction Bearing shown above Water power users say that the Rodney has solved one of the great problems in turbine maintenance—the wearing out of step bearings in the draft tube. This new type suspends the entire turbine unit from above, eliminating the need for a step bearing entirely. Write for particulars.

SEE CATALOG WW40

LARGEST STAINLESS STEEL DYE KETTLE EVER BUILT—AND WHY

Only because of Rodney Hunt patented "Curve-of-Strength" construction was it possible to build this 20 foot, 6,000 gallon capacity TRU-SHADE Stainless Steel Dyeing Machine. It was installed by Botany Worsted Mills, and is equipped with a 20 foot stainless steel reel with no middle bearing. Such "Tru-Shade" units are providing greater strength, convenience and production to leading finishing plants all over the country.

SEE CATALOG 539

DELIVERIES?

Yes—and on Schedule

Write, Wire or Phone

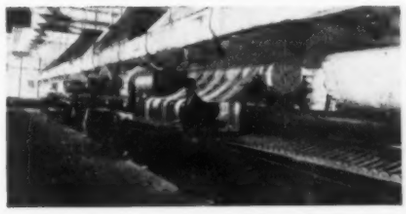
ORANGE 9

"YANKEE CLIPPER" WASHER SALES HIT ALL-TIME HIGH

This past year has seen more mills installing "Yankee Clipper" Washers than ever before. New features mean faster and better washing and rinsing at less cost. Large capacity and improved control features. Available in stainless steel or with cast iron frames, wood lined.

SEE CATALOG 340

DUPLEX TAKE-OVER CUTS 30% OFF DYEING COSTS



Every dye beck in the Mount Hope Finishing Company (shown above) is equipped with a Rodney Hunt Duplex Take-Over. Providing automatic feeding of cloth in one continuous string, it increases the capacity of the tub by 30 to 50% and saves sewing time. Scores of installations have proved beyond question that this attachment has at last solved the problem of continuous cloth-feed control.

SEE BULLETIN TM741

may we tell you more?

RODNEY HUNT MACHINE COMPANY
66 Mill Street, Orange, Mass., U. S. A.

RODNEY HUNT

Please send me—

CATALOGS ☐ **Textile Machinery** ☐ **Rolls and Reels**
☐ **Water Power Equipment**

COMPLETE DATA ON.....

.....

(Signed) .....

FIRM .....

ADDRESS .....

☐ **I would like to be put on your mailing list.**

DOUBLE EXTRACTOR PRODUCTION WITH TOLHURST SUPREX

Recent time trials and production tests made in a well-known mill under identical conditions showed the following results: Hourly production of TOLHURST SUPREX was 1370 lbs. against 730 lbs. for a standard type extractor. Complete operating cycles were 8.2 minutes for the SUPREX and 16.4 minutes for the standard type. TOLHURST SUPREX required only 4.2 minutes actual running time to obtain 40% moisture retention. The standard type extractor required 12.4 minutes to obtain the same result. Proportionate savings can be effected on other textiles. Let us prove these claims through tests on your materials. Use the handy coupon below to get complete information!

TOLHURST
CENTRIFUGAL DIVISION
American Machine and Metals, Inc.
East Moline, Illinois

FILL IN — MAIL TODAY!

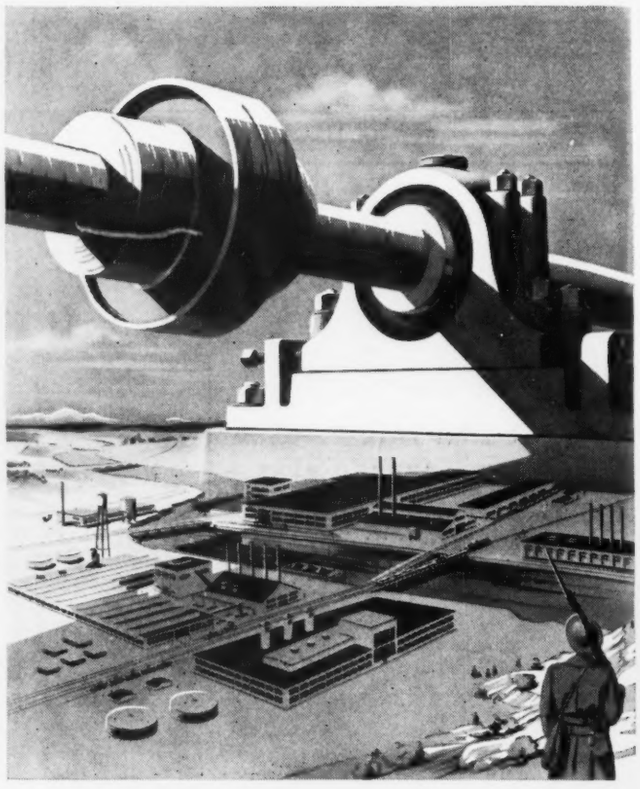
TOLHURST CENTRIFUGAL DIV.
East Moline, Ill. Tex. W. March

Yes Please send me details on TOLHURST SUPREX for increasing production.

Name_____

Address_____

City_____ State_____



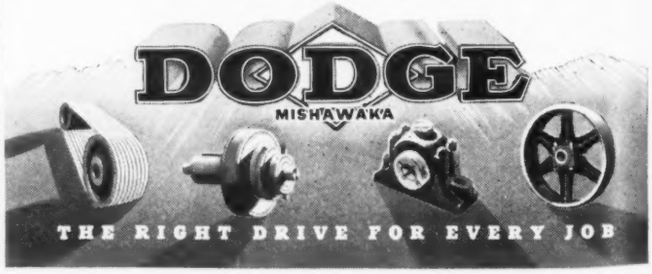
ON GUARD . . . Against POWER LOSS — a Saboteur of Production

TEXTILE production — no less than armament — must meet the peak demands of the nation's "all-out" for Victory . . . there is no time for anything short of the most efficient methods in producing the vast variety of goods needed by men in the armed forces.

Power transmission — the vital link between the machine and the source of energy that gives it productive capacity — must be uninterrupted . . . free of waste, power leakage, time consuming breakdowns . . . other saboteurs of production.

Dodge-Timken Rolling Bearings are one of many classes of Dodge products that provide a quick, sure, and economical answer to many important textile mill power transmission problems. And it's comparatively easy to modernize equipment and drives from the Dodge complete line of pillow blocks and unit mounts. Write for simple, non-technical selection tables which take the guesswork and uncertainty out of bearing selection for any application.

DODGE MANUFACTURING CORPORATION
MISHAWAKA, INDIANA, U. S. A.



Helping Industry Meet the Acid Test

1. ACIDS HOLD A FRONT LINE POST in America's production battle. In munitions factory, metal plant, oil refinery and textile mill . . . acid tanks, pipe lines and heating coils must resist the attack of industrial acids . . . keep them on the job without shut-downs for repairs . . .

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3. EQUALLY IMPORTANT, TELLURIUM LEAD *strengthens under stress* — actually "work-hardens". Tough to start with, it gets *tougher* when hammered, rolled, bent or stretched. Thus joints and turnover points are less subject to cracking . . . buckling and creeping are minimized . . . and resistance is increased to vibration and to fracture from repeated temperature changes . . .

4. TELLURIUM LEAD COMBINES these important new advantages with the well-known properties of St. Joe chemical lead because it is a special alloy of this time-tested metal and Tellurium. Fabricated in sheets, pipes and coils, its use in vital industrial spots is helping Liberty's Arsenal "keep 'em rolling".

NATIONAL LEAD COMPANY—New York, Baltimore, Buffalo, Chicago, Cleveland, Cincinnati, St. Louis; National-Boston Lead Co., Boston; John T. Lewis & Bros. Co., Philadelphia; National Lead & Oil Co. of Penna., Pittsburgh; Georgia Lead Works, Atlanta; American Lead Corp., Indianapolis; Master Metals, Inc., Cleveland; The Canada Metal Co., Ltd., Toronto, Montreal, Winnipeg, Vancouver.

TELLURIUM LEAD

• A NATIONAL LEAD COMPANY PRODUCT •

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NIGHT

Light-proof ROOF VENTILATOR READY FOR BLACKOUT

1 Low height—streamlined appearance.

2 Guaranteed performance independent of wind and gravity.

3 Hinged top gives easy access to motor fan and shutter.

1 No light shows through. Ready for blackout without special treatment.

2 Non-overloading power characteristic assures trouble-free operation.

3 Harmonizes with modern plant design.

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FREE Detailed information on Light-proof Roof Ventilators. *WRITE TODAY.*

VENTILATING EQUIPMENT DIVISION ★ American Machine and Metals, Inc., East Moline, Illinois

FOR THE PROTECTION OF OUR CLIENTS...

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For 62 years, the United States Testing Company, Inc., has acted as impartial laboratory for Certified Weights for the textile industry. And for years, the standard green color of our Official Certified Weight Reports for wool and worsted yarns has been recognized and accepted by the entire field. ★★★★ Recently, two mills requested information on green test certificates which, because of their similarity in color and printing, were erroneously thought to be ours. To avoid such confusion in the future, our Official Reports for wool and worsted yarn will be changed And although the color will be new, the reports will contain the same accurate, complete, impartial information you have always received from this laboratory.

UNITED STATES TESTING COMPANY, INC.

ESTABLISHED 1880

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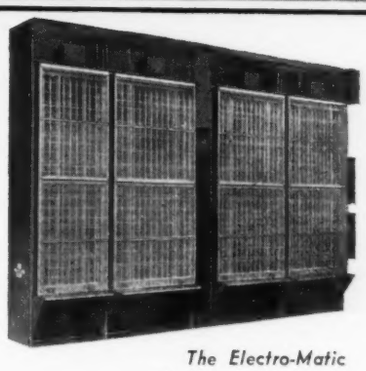
PHILADELPHIA, PA. GREENSBORO, N. C. WOONSOCKET, R. I. CHICAGO, ILL. NEW YORK, N. Y.

Is DUST writing $1,000 checks against your profits?



The Electro-Matic Electrical Precipitator for Atmospheric Dust Control

Losses due to smudging, streaking, and discoloration by dust, soot, or smoke can run into thousands of dollars every year unless the air in your plant is kept clean.

Many textile mills are today stopping this unnecessary drain on profits by the use of air filters specifically designed to collect the finest air borne particles of soot, smoke, and dust.

AAF Engineers have made special studies of textile mill dust problems and can recommend dust collecting equipment and engineer systems to take care of any unusual conditions that might be present. Ask your air conditioning consultants to investigate some recent AAF installations for you, or write for the address of our nearest engineer. Free bulletins will be forwarded without obligation.

THE AMERICAN AIR FILTER CO., INC.
Incorporated
304 Central Ave.
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THE SYMBOL AAF OF CLEAN AIR

CANADIAN COMPANIES
Please Address
DARLING BROS., LTD.
Montreal, P. Q.

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STOP LOSSES FROM DUST, SOOT and SMOKE

"BEST LOOKING COUPLE . . ."

Indeed, they are! Take any fibre, or any mixture of fibres—combine with DuraBeau Finishes—and the fabric gains lavish beauty in perfect harmony with both the needs of the fibre and the demands of the market.

And, where the vital question is "How will it wear?"—DuraBeau assures wear-ability that withstands most critical appraisal.

This is extra value that SELLS! Use it in selling. By transfers, labels, inserts on packages, in all sales promotion, it pays to *say* the product is . . .

Reg. U. S. A. and Canada

DuraBeau FINISHED for lasting beauty, added wear

SCHOLLER BROS., INC. • Mfrs. of Textile Soaps, Softeners, Oils, Finishes
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Dandux Canvas Products are playing their part in America's Defense and Victory program. Supplying our armed forces with their requirements of Canvas and Canvas Products has, and will continue to tax the production facilities of our entire industry, yet the "DANDUX" organization offers its "all out" cooperation.

Prepared, alert, and mindful of the monumental task confronting all Citizens of our democracy, we gladly pledge all our resources and energy to America!

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WATER WHITE SILICATE

Best for Peroxide Bleaching

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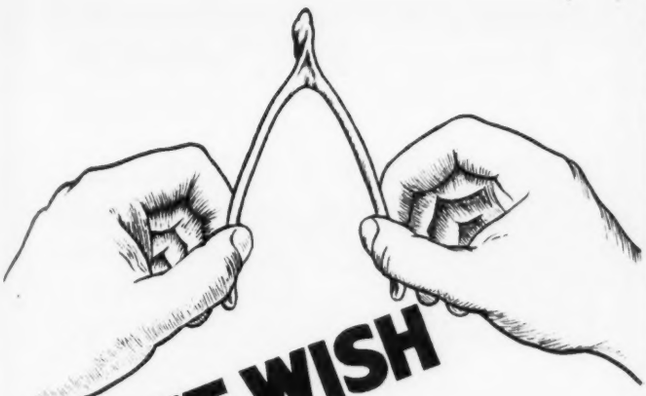

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50 YEARS OF SERVICE

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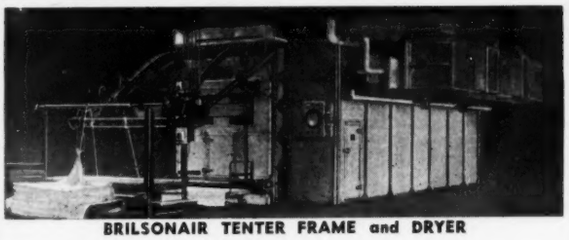

BRILSONAIR TENTER FRAME and DRYER

GET INCREASED PRODUCTION PLUS MORE UNIFORM DRYING

To increase your production and to improve the uniformity of your shades through uniform drying, install one of these new BRILSONAIR Drying Systems in your Mill either with a new Tenter Frame or as an addition to your present frames.

The BRILSONAIR exclusive and patented method of placing air ducts inside the chamber and so *concentrating the air* exactly where it belongs—on the fabric —makes for improved quality, increased production, and uniformly dried fabric, as *every inch* is treated with air of equal temperature and velocity.

These dryers can be installed by us in 8 to 12 weeks, according to your requirements, and without interruption of your present operations.

For additional information, without obligation, write to

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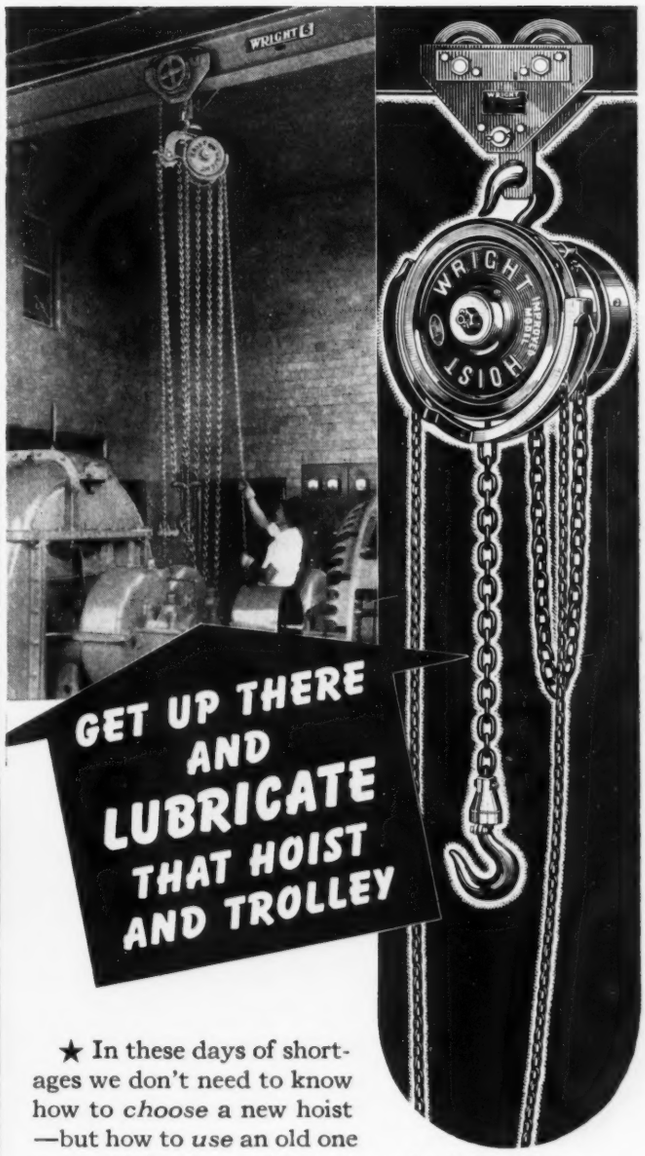
CONCENTRATED AIR DRYERS AND CONDITIONERS



GET UP THERE AND LUBRICATE THAT HOIST AND TROLLEY

★ In these days of shortages we don't need to know how to *choose* a new hoist —but how to *use* an old one more efficiently, and how to make it last longer.

So—get busy with the grease gun! Where properly lubricated and maintained, many **WRIGHT HOISTS** have given constant, trouble-free service for 20 and 25 years. We have known other hoists to be so badly abused they were ruined in *two* years. Your **WRIGHT HOIST** will last indefinitely if you treat it right.

If your hoist is under constant use, as on assembly line work, inspect and lubricate it every month. If it is subjected to ordinary occasional service, then perhaps lubrication every three months and inspection every six months is sufficient. But keep your load chain well lubricated at all times. A lubricated chain will *far* outlast a dry chain.

Conserve steel and maintain production schedules by regular inspection and lubrication.

WRIGHT MANUFACTURING DIVISION
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In Business for Your Safety

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AMERICAN CHAIN & CABLE COMPANY, INC.
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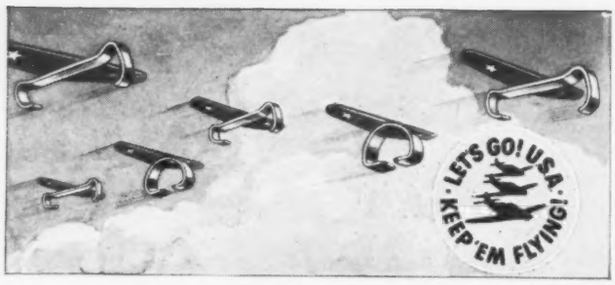

To "Keep 'em flying" use top-flight RINGS!

With an estimated need for several hundred pounds of textile products per soldier, the demand for singles and ply yarns is going to prove a prodigious problem. Every spindle MUST be equipped to keep the travelers flying at speeds that give top production. NOW — install new DIAMOND FINISH spinning rings to increase production 10% or more over worn, wavy rings! NOW — install DIAMOND FINISH Eadie lubricated rings to increase twister production 25% to 50%.

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DIAMOND FINISH

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WOONSOCKET, R. I.

Incorporated 1904

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Standard Grades — Lustrous — Delustred — Superfine

Rayon Noils . . Staple Fibre

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Cotton Yarn and Warps . . Single or Ply . . White or Colored . . Carded . . Combed

Novelty yarns—of cotton, worsted, wool, mohair, rayon, silk — in all fashionable combinations and effects and in many original effects. Write for samples.

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FILLING WINDERS

Produce Filling of maximum yardage in Cop, Butt and Bobbin form for plain or automatic looms at minimum operating cost and maintenance.

Send us a small supply of your yarn for Test-Wind Report and Catalog.

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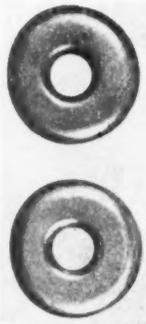

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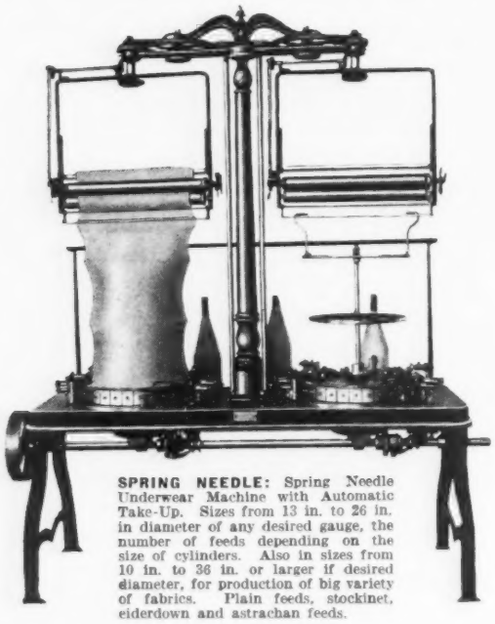
meet the need for Speed—
for Quality and Low Cost



SPRING NEEDLE: Spring Needle Underwear Machine with Automatic Take-Up. Sizes from 13 in. to 26 in. in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also in sizes from 10 in. to 36 in. or larger if desired diameter, for production of big variety of fabrics. Plain feeds, stockinet, eiderdown and astrachan feeds.

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is *versatility* . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are Patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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Improved Automatic 3 Colored Plain Stripes. Made in sizes from 7⅝ in. to 20⅝ in. inclusive, of any desired gauge. Measurements are back to back of cylinder needles. Knit fabrics for bathing suits, theatricals, athletic goods. Crawford stop motion applied when requested.

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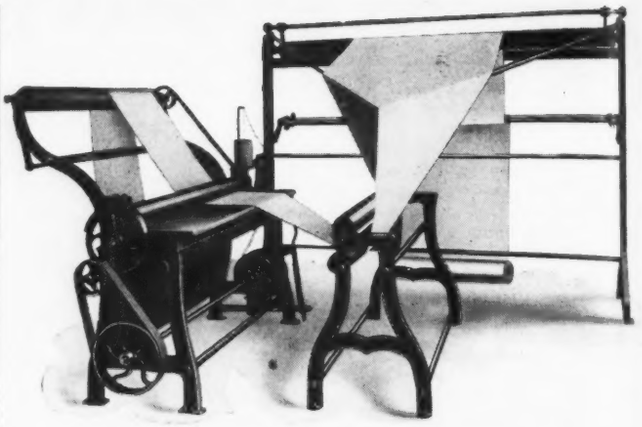
Spring Latch Needle
KNITTING MACHINERY



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Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

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for

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OUTERWEAR
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Complete color assortments

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MORE BEAUTIFUL THAN EVER!

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Wire, write or telephone.

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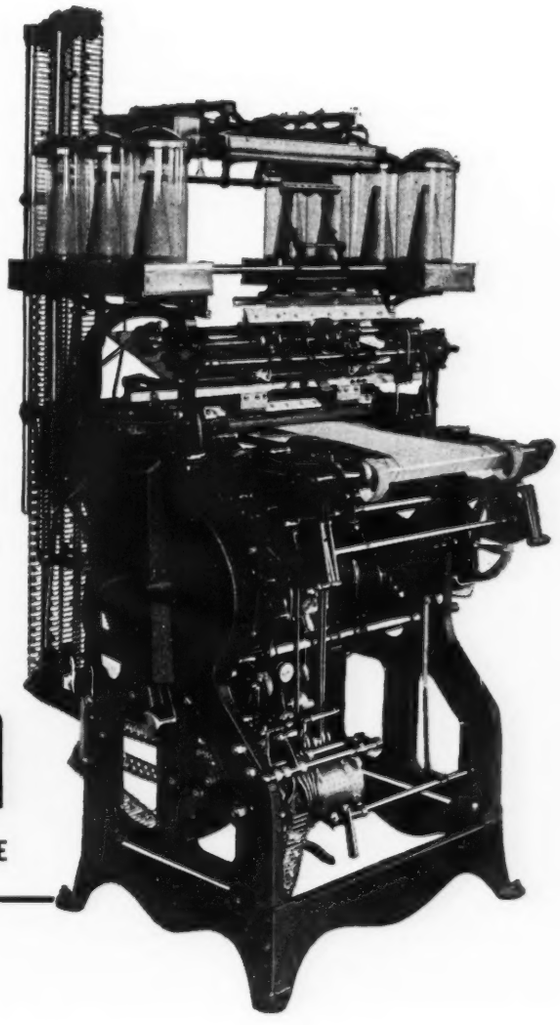

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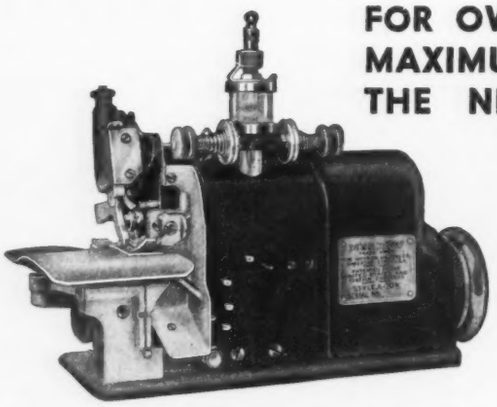

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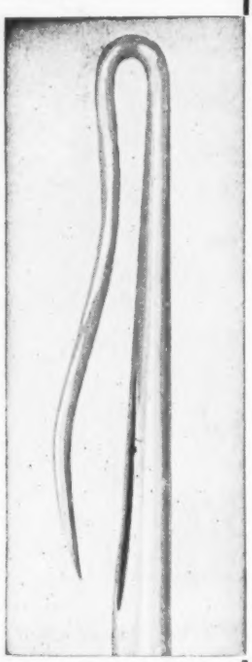

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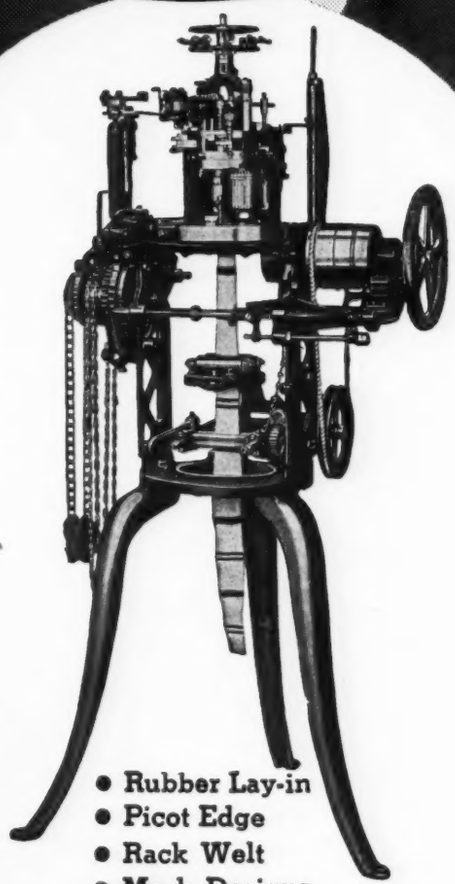

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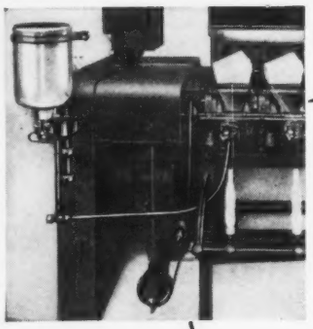

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Understand protects yarns like standard starches yet desizes completely in soap and water.

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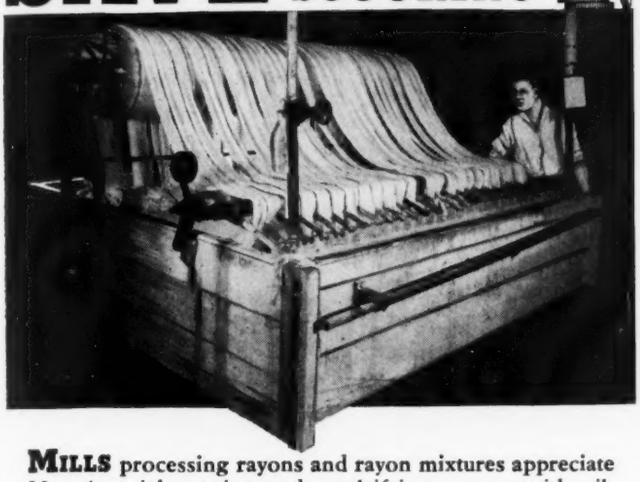

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50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

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AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page. T.W.

NEW ADVERTISEMENTS received by 10 A. M. February 25th will appear in the March issue, subject to limitations of space available.

Over Forty Years of Dependable and Confidential EMPLOYMENT SERVICE for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 **294 Washington Street, Boston, Mass.**

POSITIONS VACANT

FOREMAN—Warping and quilling department on rayon and silk for southern plant. State experience, age and salary expected. P-99, Textile World, 330 W. 42nd St., New York, N. Y.

WANTED—Man preferably with Engineering background but not essential to supervise production in three separate but related units weaving narrows fabrics in Mid-South. Good opportunity for right man. Narrow fabric experience not necessary, but technical knowledge of general weaving of great benefit. Box MM441, Maley, Times Building, New York.

GOOD POSITION offered to experienced man on narrow fabrics must know designing costing warp preparation winding etc. State experience and salary required. P-100, Textile World, 330 W. 42nd St., New York, N. Y.

POSITIONS WANTED

SUPERINTENDENT OR OVERSEER OF WEAVING. 44 years old. Scotch-Irish descent. 28 years experience as a practical mill man on all models of Drapers, Dobby, plain, Satin and linings, Rayons, Acetates, etc. Expert loom man, also warp preparation, slashing, winding, etc. Thoroughly understand the operations of every department. At present employed as an executive, but desire to make change. Will go anywhere, and can furnish the best of references. PW-84, Textile World, 330 W. 42nd St., New York, N. Y.

FIBER TECHNOLOGIST, Ph.D. (Physical Chemist) with long experience in synthetic and natural fibers, 38 years, desires research or development position with progressive organization. PW-101, Textile World, 330 W. 42nd St., New York, N. Y.

WARPER FILLER drawing in and Slasher Supervisor American looks for position in Silk Rayon and Acetate either Broadsilk or Ribbon. PW-102, Textile World, 330 W. 42nd St., New York, N. Y.

OVERSEER of dyeing desires change. 40 years old, married, 20 years experience on raw stock, yarn and piece dyes consisting of wool cotton and rayon. Excellent habits. PW-104, Textile World, 330 W. 42nd St., New York, N. Y.

"SEARCHLIGHT" can help you

by bringing business needs or "opportunities" to the attention of other men associated in executive management, sales and responsible technical, engineering and operating capacities with the industries served by the following McGraw-Hill publications.

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Departmental Staff

McGRAW-HILL PUBLISHING CO., INC.

New York, N. Y.

FACTORY MANAGER

WANTED

Knitting Mill manufacturing women's underwear, offers excellent opportunity to capable man of high calibre, thoroughly experienced in efficient factory management from Knitting through the finished garments. Give full details, experience, past and present connection, when responding. Strictest confidence assured.

P-98, Textile World
330 W. 42nd St., New York City

Woolen Mill Available

30 loom

Dye house and cards

For sale or rent or will work on commission.

BO-97, Textile World
330 W. 42nd St., New York City

FOR SALE

Continued on pages 174-177

1—Butterworth 5-Bowl Calender equipped with:

3—combination cotton & husk rolls 20" in diameter x 50" face. 1—chilled iron roll 12" diameter x 52" face. 1—steel roll 10" in diameter x 52" face. (Above rolls have timken roller bearings). 1—extra combination cotton & husk roll 20" in diameter x 50" face. 1—G. E. 15 H.P., BTA, 550 to 1650 RPM variable speed motor with starting switch.

1—Butterworth 5-Bowl Calender equipped with:

3—combination cotton and husk rolls 20" in diameter x 50" face. 1—chilled iron roll 12" in diameter x 52" face. 1—steel roll 10" in diameter x 52" face. (Top & bottom rolls have timken bearings; 3 center rolls, brass bearings). 1—extra combination cotton & husk roll 20" in diameter x 50" face. 1—G.E. 30 H.P., 1155 RPM motor with variable speed control. 1—3-bar Farrel expander. 1—2-roll winder.

FS90 Textile World
330 W. 42 St., New York City

FOR SALE

KNITTING TABLES

Six Campbell and Clute knitting tables, comprising 21 cylinders sizes 9" to 15", set up on 24 gauge.

No reasonable offer refused.

The Farragut Manufacturing Co.

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WANTED TO BUY

Braiding Machinery

Twisting Machinery of All Types

Universal Winding Machines

Yarns

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330 W. 42 St., New York City

Wanted and For Sale

ELASTIC YARNS

Small or large lots. All sizes.

I. B. SILK CORP.

315 W. 36th St. New York, N. Y.

WANTED

FRINGE LOOM

Please state lowest price, description, etc.

W-86, Textile World
520 No. Michigan Ave., Chicago, Ill.

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NORMAN M. McDOWELL
ASSOCIATES

342 E. 142 St. **Bronx, N. Y.**

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FOR SALE

1—**W&J** 90′ Swing Type Clamp Frame.
1—**Pin Frame,** 20′ x 66″ wide, motor driven.
1—**Calender** 5 bowl, 47″ face with mycock expander.
2—**Mangles** 40″ all rubber or brass & rubber rolls.
2—**C&M** 4 blade **Shears,** complete.
8—**C&M and P&W** Single & Double Blade **Shears** 60″ to 76″ complete.
2—**D&F Knit Goods Nappers** 20 rolls, 80″ x 90″ widths.
7—**Woonsocket D.A. Nappers** 80″ wide, 20 rolls, self oiling type.
1—**P&W Semi Decatur** 72″ wide with #2 Nash Hytor Pump & Motor.
2—**Cloth Winders** 44″ & 46″ with overhead reels.
2—**E&H Folders** 42″ & 46″ 1 yd. & 1¼ yd. folds.
1—**C&M D.A.** 4 roll **Brush & Sanding machine.**
2—**Extractors** 42″ & 48″ Copper tinned baskets, motor driven.
1—**Napper Grinder,** automatic tripping, adjustable for 80″ rollers.
4—**Quetches** 2 & 4 roll, 42″ to 58″ widths.
7—**Dinsmore Rotary Sewing Machines.**
2—**Windle Doublers** 60″ and 66″ complete.

Only a few of the many units available
Send for our complete catalog.

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33—**Draper Twisters,** 200 spindles each, 3″ gauge, 2¼″ ring, tape driven; equipped with separators. 1922-1924 model. Excellent condition.
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A. F. FYANS
Textile Machinery

P. O. Box 454 **Fall River, Mass.**

FOR SALE

1—**Saco Lowell Hot Air Slasher**
1—3 Cylinder **Woolen Card** 60x48 **Tape Condenser**
5—**Johnson & Bassett H'vy Pattern Mules**
1—**Columbia-Green Single Acting Napper**
3—**D&F Dressing Frames**
New oil circuit breakers, recording watt-meter

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Including 2 International Business Machine Time Clocks, Stock & Piece Dye Kettles, Loom Supplies and Electrical Supplies, Pulleys, Shafting, Belts, etc.

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Knitters: Ribbers: Loopers:
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Special attention to export trade

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USED OR REBUILT
Spinning—Weaving—Dyeing
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Specialists in Export Trade

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Cable: Maquintex—Code: Bentley's

WE WANT TO SELL:

2—8x10′ Pump & Heater Type Kier
1—8x10 Kiers (Vomiting)
8—Swing Folders (Ceiling Type) 50″-66″-108″
1—Copper Jacketed Kettle 20″x26″
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5—90″ Copper Cans
8—50″ Copper Cans
1—74″ Simpson Winder
2—47″ Jigs Wooden Boxes
1—Parcel Post Scale 70 lbs. Cap.
1—25 HP Motor DC 230 V 300/1200 RPM—controls
1—40 HP Slip Ring Motor 550 V. Drum Controls
2—60 HP Mather & Platt Motors 550 V. Dustproof
2—5 HP Motors 550 V. 900 RPM Bock Geared
2—½ HP Motors DC Reduction Gears—Controls
1—15 HP Motor 220 V.—850 RPM
2—5½ HP Motors 550 V. 900 RPM
1—1 HP Motor 220 V. 1800 RPM
2—½ HP Motor 110 V. 1740 RPM
1—66″-5 Roll Butterworth Watermangle
1—66″ Scutcher (Butterworth)
1—72″ Montford 3 Cyl. Shearing Mchne.
1—96″ Woonsocket 22 Roll Napper
1—66″ 2 Roll Pad—Brass & Rubber
1—66″ 3 Roll Pad—1 Brass, 2 Rubber
1—50″ 2 Roll Pad—Brass & Rubber 18″ Diam.
1—120″ 2 Roll Pad—Brass & Rubber 14″ Diam.
1—66″ 5 Box Soaper Rubber to Rubber 19″
1—54″—30′ W & J Tenter

WE WANT TO BUY:

1—Set 140″ Steel Tinned Drying Cans (40)
1—Set 140″ Tinned Copper Cans (40)
1—1—Set 50″ Copper Cans (30)
1—Set 90″ Copper Cans (40)
1—120″ Tight Washer—Rubber Rolls
2—140 to 144″ Iron Rolls 12 to 15″ Diam.
1—120″ Padder
1—80″ Heathcote Type Brusher with Calender Head
2—80″ Decatizer Drums
1—80″ Swing Folder
1—80″ Steam Box
1—40′ Tenter Frame 54″
1—30′ Tenter Frame 54″
1—90′ W & J Tenter Chain
1—90′ Butterworth—00—Chain
1—60′ V. Vianderen Tenter Chain
1—72″ Rayon Decatizer

ROLLS AVAILABLE:
Copper — Brass — Steel — Rubber — Iron — Cotton — Composition — Husk
Motors: AC and DC
Silent Chains—Roller Chains—Sprockets —Gears—Valves
Repair Parts for Textile Machines

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Clearing House for Defense Machinery Used in the Textile Industry

LIQUIDATING

4—**Permutit** 10′x10′ **Vertical Water Softeners** with Valves, Meters, Piping, and Zeolite.
4—**Hungerford & Terry** 8′x20′ **Water Filters.**
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350—**Copper Print Rollers.**
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ready to do its job for

ALL-OUT *production*

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1—42" King & Gerber 3 roll Calender with 3/60/220 v. motor
1—48" Farmer 6-bowl Calender
1—50" Van Vlaanderen 3-roll Calender
2—sets 3-cyl. Furbush Woolen Cards 48"x60" camel back feeds Barker condensers
1—60"Van Vlaanderen Doubling, Tubing & Measuring Mche.
1—set of 16 Textiles 23"x60" Dry Cans, vertical frames
1—set of 29 Textile Tinned Iron Dry Cans, 23" dia.x69½" face
1—set of 23 Granger Cooper Dry Cans, 23" dia.x88" face with horiz. frames
1—150 yd. Kenyon Return Tenter Dryer, 65"
1—100 yd. Kenyon Return Tenter Dryer with P & S Housing with 26 to 89" opening
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1—20 lb. Rochester All Monel Metal Pocket Rotary Hosiery Dyeing Mach. mtr. dr.
1—56 Arm Mayoux Skein Dyeing Machine driven with monel and copper tanks.
1—30" Hercules motor driven Extractor.
1—40" Tolhurst, copper basket Extractor driven by a 3/60/220 v. mtr.
2—42" Hercules, Stainless Steel Baskets, V-Belt, mtr. dr. Extractors with Timers and Safety covers
1—60" wide, 3-cyl. 30" dia. Garnett, automatic with breast, chain driven workers, automatic feed, V-belt motor drive, 3/60/550 roller bearings, clothing good
3—Schultz Fulling Machines
2—Bahnson Humidifiers with 3/60/220 v. mtrs.
35—S&W Mod. K Knitters, 48 gge. with striper drums lay in lastex attachments, equipped with dble sole & heel. 4—3" 160 N.; 15—3¼" 172 N.; 1—3½" 186 N.; 5—3" 188 N.; 5—3¼" 204 N.; 5—3½" 220 N.
80—42" R. S. Draper Model K Automatic Looms, 20 harness, mtr. dr.
12—72" C & K (4x4) Tapestry Looms with 1300h Jacquards, mtr. dr.
30—82" C&K 4x1 Auto Looms 25 harness mtrized.

A PARTIAL LIST ONLY

12—92" C & K 4x1 Box Automatic Looms, 20 harness head, warp stop motion, mtr. dr.
10—92" C & K 4x4 Box Looms
100—92" Draper Model L automatic Looms, belt driven.
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1—65" Van Vlaanderen Palmer
1—50"Morrison Trune Finishing Machine Quetch Palmer Tenter.
1—67" Morrison Palmer with 2-roll Quetch
4—40" H&B Single Process Pickers with hopper feeders.
2—1-65"; 1-66" Rotary Cloth Presses.
1—8 color Van Vlaanderen Ribbon Printer
1—42" Rice, Barton & Fales, 7-color Printing Mche. with Dry Cans etc.
2—60" Smith & Furbush Shredders
1—43" Rice, Barton & Fales 8 color Printing Mache. with Dry Cans, etc.
1—54" Textile Mach. Co. 8 color Printing Mach. complete with 2—G.E., 35 HP motors, 220 V., 60 cyl.. 3 ph. 415—1250 RPM
1—52" Waldron 12 color Printing Mach., complete with Westge slip ring, motor, 50 HP, V., 60 cyl., 2 ph, 870 RPM
19—144 Sp. Saco Pettee 8x4 Roving Frames.
6—224 Sp H&B long draft Spinners 2¾" gge.
1—78" P & W Model A, 2-blade Shear
1—Saco Lowell 2 cyl. slasher & warper, 1919.
1—66" Johnson 5 cyl. Slasher (cotton system)
1—Saco Lowell Slasher, 58" face, wi Size Box.
1—40' Textile Finishing Tenter Frame with Housing, with 115" opening
1—90' Butterworth Clip Tenter 50" mtr. dr.
2/60 Sp. Atwood 5-B Spinners 3" rings, 5" gge, mtr. dr.
1—Pair of 60" Squeeze Rolls
3—28 Sp. F&J Novelty Twisters with mtrs.
150—128 Sp. Fletcher Dble Deck Upstroke Twisters, 7" Sp. spacing, each equipped with 2-3 HP mtrs and Fletcher oil well nonbendable type Sp. and balloon separators.
8—192 spindle Whitin West Twisters 2¾" gge.
1—54" Easton & Burnham Warper & Creel. 800 Ends & 800 Extra Ends with mtr.
7—Collins Dble Feed roll Fancy or Novelty yarn Twisters—192 SP. and 180 SP. mtr. dr.
7—18 Sp. Oswald Lever Bottle Winders, mtrs.
4—72 Sp. National Skein Winders, mtr. dr.

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40,000 Aluminum Cone Holders
120 Automatic Looms
6 Double Deck Spinners
91 5B Machines
120 Winders

Winders and Spinners equipped to make large packages. Lot supplies and large amount spools.

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16 Madison St. Paterson, N. J.
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P.O. Box 1535

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1—10000 KW. West. 2400 V. Cond.
1— 5000 KW. GE. 13,200 V. Cond.
1— 3000 KW. GE. 600 V. Cond.
1— 2500 KW. GE. 600 V. Cond.
1— 625 KW. Terry-Allis—600 V. Cond.
1— 500 KW. GE. 2300 V. Mixed P.
1— 500 KW. GE. 600 V. Cond.
1—175 H.P. G.E. Turbine—only

AIR COMPRESSORS

1—1190 Cu. Ft.—IR—2 stage Direct Motor Driven.
1— 888 Cu. Ft. — IR — 2 stage Steam Driven.
1— 599 Cu. Ft.—IR—2 stage Belted
2— 549 Cu. Ft.—IR—Duplex 35# pressure
1— 173 Cu. Ft.—IR—ERI Belted.
1— 146 Cu. Ft.—IR—3 stage Belted 2000#

G.E. CENTRIFUGAL COMPRESSOR

Type WM—675—8800/10800.
Volume—8800/10800 Pressure 32/39.6.
Driven by 820 H.P. G.E. Turbine.
Condition excellent.

BOILERS

2— 600 H.P. B&W—200#
2— 500 H.P. Heine—250#
1— 340 H.P. B&W Sterling—150#
2— 160 H.P. B&W Sterling—155#
1— 167 H.P. HRT—150#
1— 60 H.P. HRT—125#

BELTED GENERATOR

1—500 KW. G.E. 550 V. 225—RPM.
1—550 KW, G.E. 2300 V., 360 RPM.

PUMPS

1—4000 GPM, DeLaval Cent. 195 Ft. Head Driven by 300 H.P. G.E., 2200 V. motor
1—1500 GPM, DeLaval Cent. 290 Ft. Head Driven by 200 H.P. G.E., 2200 V. motor
1—1500 GPM, Gould Fire Pump, 231 Ft. Head Driven by 150 H.P. G.E., 2200 V. motor
2—1200 GPM, Worth. Cent., 180 Ft. Head Driven by 75 H.P. G.E., 2300 V. motor
1— 750 GPM, Worth. Fire Pump, 16x9x12 Steam Driven. This item never used.

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14—Motors, 25 cycle, 440-550 volts. H.P. ranging from 15 to 350

Also transformers, engines and cranes

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All Makes EXTRACTORS All Sizes
also ironing, Washing and Drying Machinery.
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Stillwell 4-3715

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Pennsylvania Class 3A, Air Cyl. 12", Stroke 8", Air Press. 40, R.P.M. 325, Serial #4396. Complete with Air filter, 55 Cu. Ft. Tank, Aftercooler, 40 H.P. Motor 550 V, 3 Phase, 60 Cyc., Compensator and Belt.

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90 Franklin Street Worcester, Massachusetts

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1—Kitson Card and Picker Waste Cleaner. 1—32"x32" Saco Lowell Kettle.
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5—Kitson 34" Hopper Feeders.
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2—Steamers, 8" dia., x 20" long.
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1—Textile 200-Gallon Copper Jacketed Tilting Agitated Kettle.
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2—Textile 8-Bowl Full Width Open Washers, rubber on brass rolls.
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1—3-Knit Open Seater 50" rubber and brass roll.
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2—Rodney Hunt 10' Rope Soapers.

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2—Parks & Woolson Double Blade Shear, 66", with list saving device.
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3—Burkhardt 60" Rubber Lined Basket Extractors.
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1—Textile 5-Roll Chasing Calendar, equipped with 10-brass rolls.
2—Butterworth & Textile 2 and 3-roll Calendars, 40" and 50" in width.
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1—National Loop Dryer.

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2—Textile 90' Swing Tenter Frames, 50" wide, Butterworth stainless steel clips, equipped with 80' sheet rock insulated tenter frame housings.
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1—Set 22—Textile Dry Cans, 23" x 44", vertical stack.
2—Sets Textile Copper Dry Cans, 108" x 23", 25 Cans, vertical stack.
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6—Rodney-Hunt Filling Mills, Gear Drive.

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2—Parks & Woolson Model E, Doubling Reeling and Measuring Machine.

FLAT FOLDERS

6—Elliot & Hall Flat Folders, with airlift table attachment.
3—Curtis & Marble Flat Folders.

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1—Van Vlaanderen Button Breaker, Brass Rolls.

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4—Textile 50" 2-Roll Dye Padders.
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25—Dye Boxes, stainless and monel lined, 4' to 19. Special
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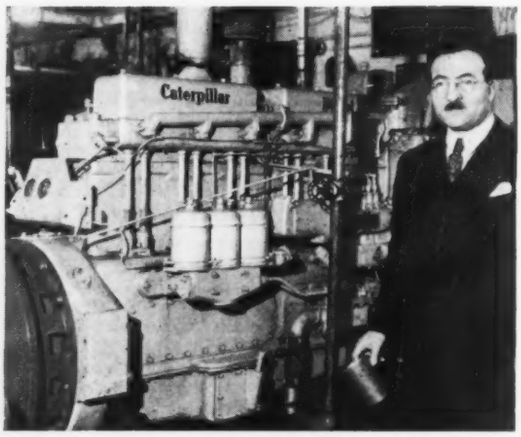

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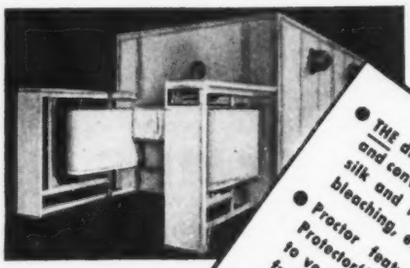

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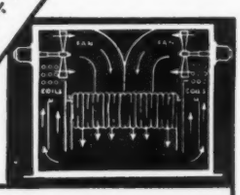

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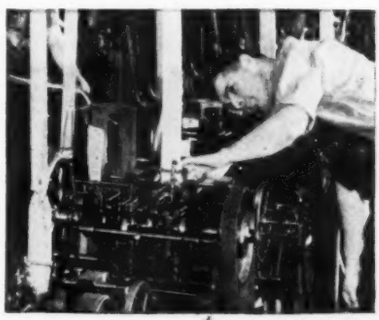

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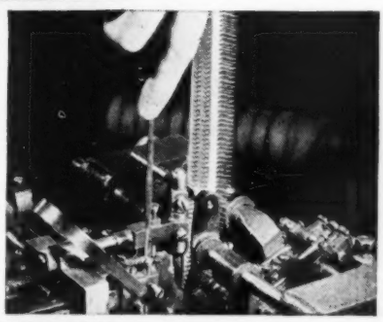

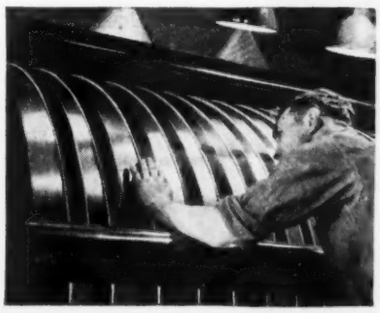

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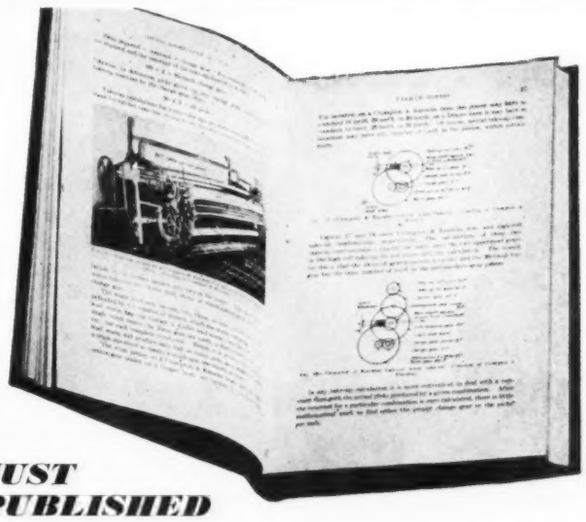

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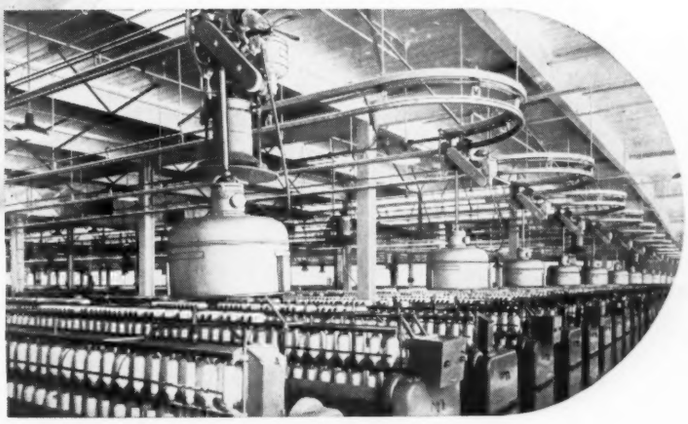
Controlled Cyclonic Cleaning

KEEPS MACHINES PRODUCING FULL TIME

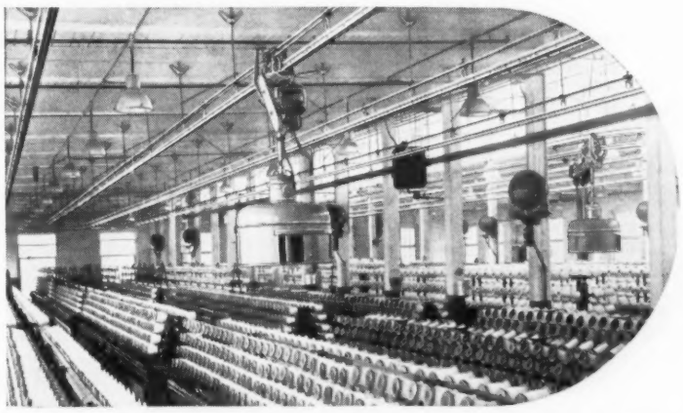
Swirling Column of Air Prevents Lint Accumulation with no Damage to Roving

NOW more than ever before it is necessary to keep machines going at top speeds. There is no lost production when American MonoRail Automatic Overhead Cleaners are at work over spinning, winding, twisting and warping machinery. Automatic cleaning keeps machines producing full time, enables operators to increase their output and reduces the number of gouts or bunches in the yarn.

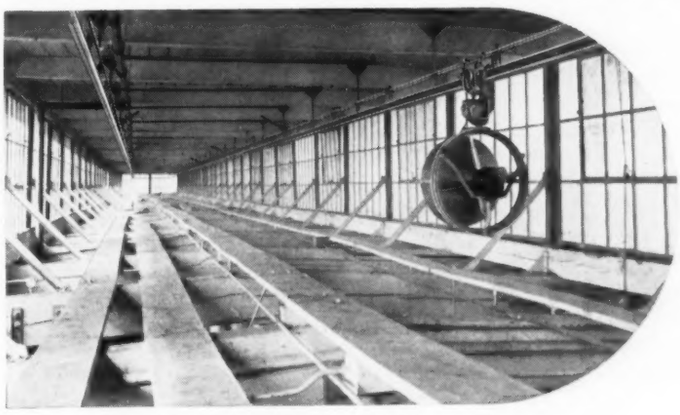
Let an American MonoRail Engineer explain such advantages as better running work; fewer gouts or bunches; less endsdown; spinners handle more sides; lower cleaning costs; no lost production and reduced machine stoppage. This information will be gladly given without cost or obligation on your part. Write us today; we will immediately send you copy of book describing Automatic Cleaning and Overhead Handling in the Textile Industry.



★ Overhead automatic cleaners over long draft spinning frames.



★ Swirling columns of air circulate around cones to prevent lint accumulation.



★ High volocity fan travels within the monitor to keep this section clean.

THE AMERICAN MONORAIL CO.

OVERHEAD HANDLING EQUIPMENT

13108 ATHENS AVENUE — CLEVELAND, OHIO

"I PREFER BUYING FROM A FIRM THAT SPECIALIZES ON TEXTILE SO. P"

"SOAP? I ALWAYS BUY FROM ONE OF THE BIG COMPANIES"

GENTLEMEN! Here is soap made by a BIG company . . . that SPECIALIZES in your kind of soap . . . and makes it to formulas YOU helped create.

There's one important thing about being in business a long time — you get to know pretty well what kind of a product your market needs.

We've been serving the textile industry for 114 years, and naturally we've learned a lot about textile soaps. We've listened to the advice of generations of men holding jobs like yours — and we've studied their soap requirements right on the spot. We believe we've come down to 1942 knowing quite a lot about textile soaps.

If you've been using Beach Soaps, we suspect you know what we mean. If you haven't, try us. You can expect an *extra* measure of satisfaction. Beach Soap Company, Lawrence, Mass.

For Wool Scouring

Bescour Flakes or Solid (10° titre)

Fultex

For Fulling

Beach Pure Palm Flakes or Solid

Palm "A" Flakes or Solid (a blended Palm Soap)

Blue Label Flakes (a pure tallow soap)

Red Label Flakes (a 39° titre soap)

For Rayon

Likol Flakes or Solid (22° titre)

Largest Manufacturer SPECIALIZING in Industrial